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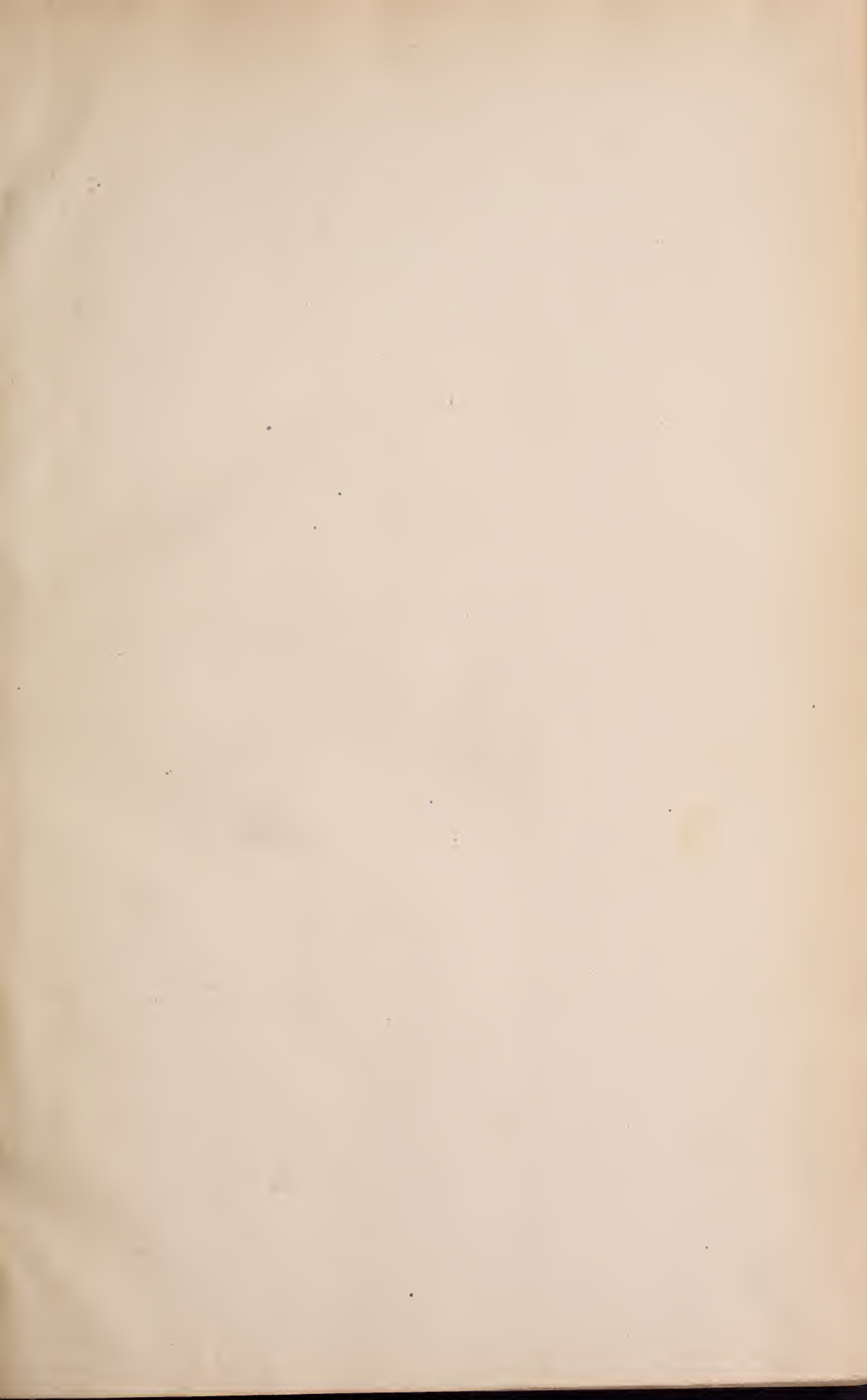


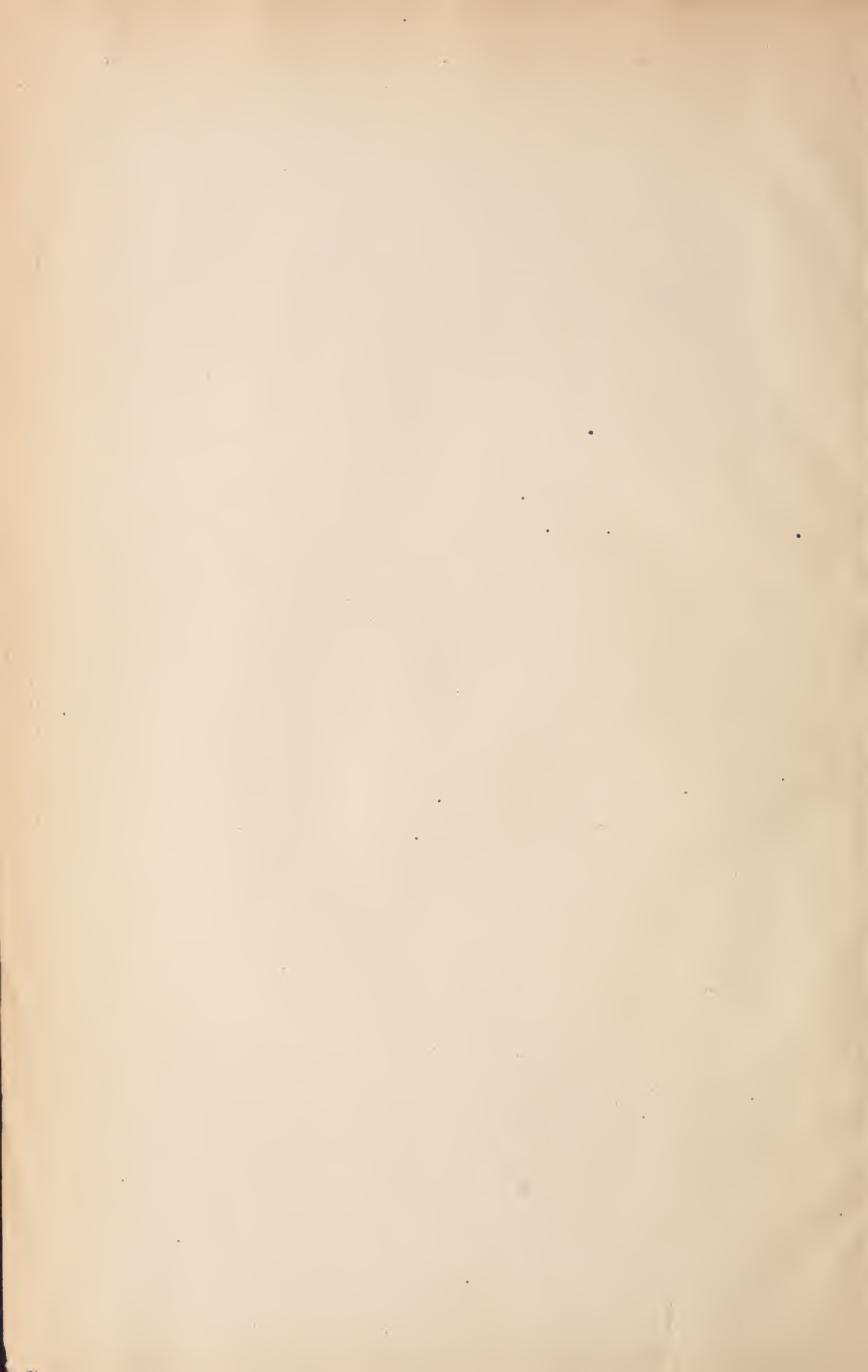
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THE JOURNAL OF CUTANEOUS DISEASES

INCLUDING SYPHILIS

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NO. 1

A STUDY OF THE GERMICIDAL ACTIVITY OF CHRYS- AROBIN AND CERTAIN OTHER MEDICAMENTS USED IN PSORIASIS.* †

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THE cause of psoriasis has been one of the mysteries of dermatology. Many eminent workers in this field of medicine believe that psoriasis is a disease of parasitic origin, but the whole question is still shrouded in conjecture.

The present study was undertaken with the view of determining the mode of action of the most efficacious remedies in this disease. If it could be determined, for instance, how chrysarobin exerts its remarkable influence upon the cutaneous lesions, such information might shed some light upon the nature of the disease. For two years we have been interested in a study of the question of the parasitism of psoriasis, and having failed to secure direct evidence, we have thought it proper to determine whether chrysarobin and allied remedies produced their beneficial results through a germicidal effect on the skin or through some biochemical action. Our investigations

* From the Dermatological Research Laboratories of the Philadelphia Polyclinic.

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of the biochemical action of chrysarobin will be published in a later communication. The object of this communication is to briefly present the results of our inquiries into the germicidal activity of chrysarobin, sodium chrysophanate, pyrogallie acid and arsenic.

I. CHRYSAROBIN.

Chrysarobin, in the form of the crude tree powder, was early used by the natives of Brazil in the treatment of diseases of the skin. Among the first affections in which it was employed by dermatologists was ringworm of the scalp, in which it appeared to exert what was regarded as a parasiticide effect. It takes first rank in the local treatment of psoriasis by reason of the rapidity and constancy of its therapeutic effect.

A. Concerning the Germicidal Activity of Chrysarobin (in vitro) on Staphylococci.

Among the microörganisms found constantly in psoriatic scales are staphylococci and various diplococci. One view of the cause of psoriasis would ascribe the disease to the activity of these cocci under conditions rendered favorable by peculiar metabolic disturbances. Our experiments, frequently repeated, show that chrysarobin has no effect, or at most a feeble germicidal action upon staphylococci. Early in this work we were required to devise a technique suitable for testing substances which are insoluble in water in order to study the action of chrysarobin, for, as is well known, chrysarobin is practically insoluble in water. All of the methods generally employed in testing germicides require that the substance be soluble in water, weak alcohol, weak alkaline solutions, etc., menstrua, which in themselves have little or no germicidal activity.

Since calomel is practically insoluble in water, we selected it as a control and determined its germicidal activity on staphylococci and other common microörganisms. Early in the work we were surprised to find that such an insoluble substance as calomel not only exerted a marked antiseptic and germicidal action in the test tube, but that this activity was practically equal to that of mercuric chloride and other mercurials.¹

TECHNIQUE: A difficulty in working with substances insoluble in water is the preparation of a suspension which will remain uniform for at least an hour or until all manipulations have been finished. We have found a sterilized 2 per cent. solution of acacia in water to answer this purpose most satisfactorily; the substance to be tested

¹ SCHAMBERG, JAY F., AND KOLMER, JOHN A., The Germicidal Activity of Calomel, *Jour. Amer. Med. Assn.*, 1914, lxii, p. 1950.

is accurately weighed and placed in a sterile flask containing a layer of small glass beads, the required amount of acacia solution being added and a suspension secured by agitating or shaking the flask for several minutes. All measurements of the suspension are made with sterile graduated 1 cc. pipets. When working with calomel we have found that very little adheres to the sides of the pipet; but with chrysarobin and similar powders, it may be necessary to wash out the pipet once or twice with either sterile bouillon or normal saline solution.

During the time necessary for measuring varying quantities of the suspension the flask should be occasionally shaken in order to keep the contents uniformly suspended.

We have used various test microorganisms; since the primary object of our work was concerned with chrysarobin and its action on the skin, we have usually worked with cultures of staphylococci; however a culture either of *Staphylococcus aureus* or *Bacillus typhosus* may be used. The test microorganism is cultivated in neutral bouillon for twenty-four hours at 37° C. (98.6° F.), filtered to remove clumps, and used in a constant dose of 0.1 cc. as delivered by an accurately graduated 1 cc. pipet.

Both plain neutral bouillon or plain neutral agar may be used for the seed medium. Best and most uniform results are secured with the former. Each tube contains exactly 10 cc. of the medium.

The technique is very simple. In the plate method, increasing amounts of the suspension as, 0.05, 0.1, 0.2, 0.3, 0.4, 0.5, 0.6, 0.7, 0.8, 0.9 and 1 cc. are pipetted into a series of twelve sterile Petri dishes; 0.1 cc. of a twenty-four hour bouillon culture of the test organism is added, followed by 10 cc. of melted agar, cooled to 40 cc. The whole is thoroughly mixed. The twelfth plate receives culture and agar and serves as the culture control.

At the end of twenty-four hours the plates are inspected. The control usually shows so many colonies that it is impossible to accurately count them. When germicidal activity is manifest there occurs a numerical decrease in colonies easily determined by counting.

By use of a 4 mm. loopful of bouillon culture in each plate the number of colonies is much reduced and accurate counting facilitated, especially in those plates which show germicidal activity of the substance being tested.

When working with large doses of a light powder it is impossible to determine by mere inspection of the plate whether or not germicidal action is manifest. In such instances, or when in doubt, we have cut out a block of agar with a stout platinum loop from the centre of each dish and macerated this on a slant of neutral agar;

the final result of the test is therefore delayed another twenty-four hours.

Better, sharper and more definite results are secured when the tests are conducted with a fluid medium. To a series of twelve tubes, each containing 10 cc. of plain neutral bouillon, increasing amounts of the suspension of substance as given above are added; after each addition the pipet may be washed out once or twice by drawing up and expelling bouillon; to each tube there is added 0.1 cc. of the test culture; the twelfth tube is the culture control and should never be omitted. The tubes are incubated for twenty-four hours, when the results are read. One is surprised with the regularity and sharpness of the results; even with slight differences in the dose of germicidal substances, the tubes either do or do not show uniform clouding due to bacterial growth.

Of course, in either method the culture controls must show good growths, as they usually do when working with *Bacillus typhosus* or *Staphylococcus aureus*.

In this method the final dilutions vary when increasing doses of suspension are added to constant amounts of bouillon. We placed the desired amounts of suspension in a series of twelve dry sterilized tubes and pipetted in increasing amounts of sterile bouillon to make the total volume in each tube the same and equal to 10 cc., but the results were practically the same when tried out parallel with the simpler procedure described above.

With the bouillon tube method the results with the same substance from day to day are remarkably constant.

The high germicidal efficiency of calomel was readily shown with this technique, as in the following experiment: 0.1 gram calomel was shaken with 100 cc. sterile acacia solution for 30 minutes and increasing amounts added to a series of plates as follows:

TABLE 1. THE GERMICIDAL POWER OF CALOMEL.

Calomel suspension.	Equivalent in weight.	Twenty-four hour broth culture of <i>Staphylococcus aureus</i> .	1.5 per cent. Agar.	Results after forty-eight hours at 37° C.
.05 cc.	.00005 gm.	0.1 cc.	10 cc.	24,000 Colonies
.1 cc.	.0001 "	"	"	15,000 "
.2 cc.	.0002 "	"	"	6,500 "
.4 cc.	.0004 "	"	"	Sterile
.6 cc.	.0006 "	"	"	Sterile
.8 cc.	.0008 "	"	"	Sterile
1.0 cc.	.001 "	"	"	Sterile
2.0 cc.	.002 "	"	"	Sterile
.....	.....	"	"	Uncountable. Culture control

This experiment, repeated a number of times, has always shown that from .0001 to .0005 gram of calomel was sufficient to either inhibit the growth or destroy the cocci contained in 0.1 cc. of a 24-hour broth culture.

This germicidal action of calomel is also shown in a very simple experiment consisting in adding to a series of tubes containing 10 cc. of neutral broth, a constant dose of staphylococcus culture and increasing amounts of calomel emulsion, when .05 cc. of a one per cent. emulsion usually inhibits or destroys the cocci.

We have no explanation to offer at this time of this remarkable germicidal activity of calomel. It may depend upon a colloidal-like suspension of the substance; we have eliminated experimentally the question of the possible presence of bichloride of mercury in our preparation (Merck's) and likewise the questions of partial solubility in hot culture mediums or the action of some chemical in the agar or bouillon.

Employing the same technique with chrysarobin we found that this substance had no appreciable effect upon staphylococci.

TABLE 2. LACK OF GERMICIDAL POWER OF CHRYSAROBIN.

Chrysarobin Suspension.	Equivalent in Weight.	Twenty-four Hour Broth Culture of Staphylococcus Aureus.	Sterile Agar.	Results after forty-eight Hours at 37° C.
.05 cc.	.001 gm.	0.1 cc.	10 cc.	Uncountable
.1 cc.	.002 "	"	"	Uncountable
.2 cc.	.004 "	"	"	Uncountable
.3 cc.	.006 "	"	"	Uncountable
.5 cc.	.01 "	"	"	No germicidal effect
.6 cc.	.012 "	"	"	No germicidal effect
.8 cc.	.016 "	"	"	No germicidal effect
1.0 cc.	.02 "	"	"	No germicidal effect
2.0 cc.	.04 "	"	"	No germicidal effect
.....	.....	"	"	Uncountable. Culture control

Since chrysarobin is suspended with some difficulty it was found necessary to shake the mixture in acacia solution, with glass beads, for at least an hour, and to flush the pipet with at least two washings into each Petri dish, in order to remove the chrysarobin which clings to the pipet. Weighing the chrysarobin in the Petri dish and then adding agar was found unsatisfactory, as the dry powder floats and cannot be readily mixed with the medium.

RESULTS: 1. While numerous similar experiments were made

with chrysarobin, in no instance could the least evidence of a germicidal action on staphylococci be demonstrated. 2. That an insoluble substance may prove germicidal is amply demonstrated by the results obtained with calomel.

B. Concerning the Germicidal Action of Chrysophanic Acid and Sodium Chrysophanate (in Vitro) on Staphylococcus Albus.

While the manner in which chrysarobin brings about its favorable influence on the eruption of psoriasis is inexplicable at the present time, there is much reason to believe that the chrysarobin changes to an oxidized derivative, chrysophanic acid, and later to a sodium salt or sodium chrysophanate, the presence of an alkali being essential. This phase of the subject will be considered in detail in a later paper; here we wish to report our experiments upon the germicidal activity of these substances.

As sodium chrysophanate is soluble in water, an opportunity is presented to readily test its germicidal properties in the test tube and likewise to determine its action on microorganisms when administered intravenously.

With substances soluble in water we have used the Hygienic Laboratory and Rideal-Walker methods, using phenol as the control for comparison and expressing the results in terms of the phenol coefficient.

The following experiment is important as it bears upon the question of the length of exposure of the micro-organisms to the substance studied. This experiment, repeated four times with equal results in each, shows that sodium chrysophanate is not entirely inert, but possesses a weak antiseptic or germicidal property when staphylococci are exposed for some time to its influence.

In a series of six sterile Petri dishes was placed .05, .032, .025, .012, .008 and .0004 gram sodium chrysophanate. To each plate was added .05 cc. of a filtered 24 hour broth culture of staphylococcus albus and 10 cc. neutral agar. After thorough admixing and incubating the plates for 48 hours, it was noticed that the numbers of colonies in the first two plates (.05 and .032 gram) were less than in the control plates and other plates of the series. This would indicate a weak germicidal or antiseptic action; at no time was sodium chrysophanate found to inhibit or destroy the cocci absolutely.

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TABLE 3. LACK OF GERMICIDAL POWER OF SODIUM CHRYSOPHANATE.

Two per cent. sodium chrysophanate in sterile water. Temperature of solution, 20° C. Culture used, staphylococcus albus, 24 hours bouillon culture, filtered. Proportion of culture and disinfectant, 0.1 cc. + 5 cc.; organic matter, none; subculture media standard broth, quantity, 10 cc.

Dilution.	Culture Exposed in Minutes.						Phenol Coefficient.	Remarks.
	2½	5	7½	10	12½	15		
Phenol {	1:20	-	-	-	-	-		
	1:30	-	-	-	-	-		
	1:40	-	-	-	-	-		
	1:60	-	-	-	-	-		
	1:80	+	-	-	-	-		
	1:100	+	+	-	-	-		
	1:120	+	+	+	+	-		
	1:160	+	+	+	+	+		
	1:320	+	+	+	+	+		
	1:640	+	+	+	+	+		
Sodium Chryso-phanate {	1:50	+	+	+	+	+		Coefficient cannot be expressed, as sodium chrysophanate possesses no germicidal properties in saturated aqueous solution.
	1:75	+	+	+	+	+		
	1:100	+	+	+	+	+		
	1:200	+	+	+	+	+		

C. Concerning the Germicidal Action of Chrysarobin (in Vitro) on Microsporon Audouini.

Chrysarobin is an efficient remedy in the treatment of ringworm of the scalp, and indeed was first used therapeutically in this disease. It was naturally inferred that its curative action was dependent upon a local parasiticide effect.

Our experiments, however, with a pure culture of microsporon Audouini, grown on special French proof agar, show that chrysarobin is lacking in this power, at least, in vitro. The following experiment is of interest in this connection:

Varying quantities of chrysarobin, from 0.1 gram to 1.0 gram, were incorporated in 8 to 10 cc. of special French proof agar-agar especially adapted for growing the ringworm fungus, and after the media had hardened, the tubes and plates were inoculated with a pure culture of microsporon Audouini and kept at room temperature. Quantities of chrysarobin greater than 0.2 to 0.4 gram were incorporated with this quantity of agar only after considerable agitation and larger quantities remained on the surface of the medium.

In all instances cultures of the fungus were secured along with bacterial contamination from the chrysarobin. In many of the cultures the fungus grew up through a heavy coat of chrysarobin, demonstrating the lack of germicidal action of the drug.

This experiment was repeated several times and controlled by the use of calomel and phenol under the same conditions. The fungus and especially the spores are more difficult to kill than the staphylococci, for, whereas .001 gram of calomel is highly germicidal for cocci, 0.1 gram exerts an inhibitory influence on the ringworm fungus without, however, proving germicidal.

The fact that chrysarobin powder has always, in our experience, been contaminated with microorganisms is of itself evidence of its feeble germicidal power. The beneficial effects of chrysarobin in the treatment of ringworm of the scalp may possibly be ascribed to the irritant action of the drug and to the depilation associated with the inflammation set up.

The following technique has been developed and employed in studying the germicidal action of chrysarobin and calomel *in vitro*. It is not as perfect as the Rideal-Walker or the Hygienic Laboratory methods for testing soluble substances and it does not attempt to distinguish between antiseptic action and germicidal power; but for insoluble substances it has yielded us fairly good results.

D. Concerning the Germicidal Action of Chrysarobin in Vivo.

Since certain substances, as salvarsan, possess little or no parasiticide properties *in vitro* but are quite active *in vivo*, experiments were undertaken to determine whether or not chrysarobin possessed germicidal activity in the presence of the body fluids. In other words, before a substance can be said to be without germicidal activity this fact must be established by experiments *in vivo*. With certain substances, on the other hand, as phenol and bichloride of mercury, germicidal activity is more evident in the test tube than upon parasites in the blood.

Intraperitoneal injection of a guinea-pig with 0.1 gram chrysarobin, either unsterilized or after heating to 60° C. for an hour, always causes peritoneal irritation and the outpouring of a polynuclear leucocytic exudate similar to that induced by aleuronat.

Chrysarobin, being insoluble in water, cannot be administered intravenously because of embolus formation. Accordingly, weighed amounts of chrysarobin with a portion of a virulent culture of *Staphylococcus aureus* were thoroughly mixed and placed in the

subcutaneous tissues of guinea-pigs, to determine the development or non-development of abscess formation.

The abdomen of a 465 gram guinea-pig was shaven and cleansed. Under ether anæsthesia a small incision was made in the skin on the right side near the inguinal glands, and a pocket made, into which was placed a small gelatin capsule containing 0.1 gram chrysarobin and two loopfuls of a twenty-four hour agar slope culture of *Staphylococcus aureus*. On the left side a similar pocket was made, and a capsule containing the same quantity of culture suspension quickly inserted. The animal was observed for a period of ten days; abscesses developed upon both sides, slightly more severe on the right side, where chrysarobin was placed. Most of the chrysarobin was discharged as a yellowish powder, quite similar in appearance to the raw product. This experiment was repeated by preparing an emulsion of chrysarobin and culture, and injecting the mixture through a large bored needle into the region of the inguinal glands. The culture alone was injected on the opposite side. Abscesses developed on both sides.

In order to further determine the possible influence of blood serum or a secretion present in the psoriasis lesion, in modifying chrysarobin and rendering it germicidal, the following experiments were conducted:

0.1 gram chrysarobin was thoroughly mixed with 1.0 cc. of fresh human serum and incubated over night. To the mixture was then added 9 cc. sterile salt solution, and the emulsion plated in ten increasing doses, ranging from .05 cc. to 2.0 cc., with a millimeter loopful of 24 hour broth of culture of *Staphylococcus aureus*, to each plate. Control plates of serum and culture were likewise prepared. After incubating the plates for forty-eight hours, no germicidal influence was apparent.

A similar experiment was undertaken with an emulsion of psoriatic scales. For this purpose 1.0 gram of scales were shaken mechanically with glass beads in 20 cc. sterile salt solution until thoroughly softened and emulsified. This emulsion was then filtered through paper and a sterile Berkefeldt filter. To 0.1 gram chrysarobin was added 1.0 cc. of this filtrate, thoroughly mixed and incubated over night. Nine cc. of sterile salt solution were then added, and the emulsion plated out in increasing doses with a constant amount of staphylococcus culture. In no instance was there any evidence of a germicidal influence.

The total lack of germicidal activity of chrysarobin upon the cocci of the skin was also shown in the following experiment:

A 1 per cent. suspension of chrysarobin in sterile acacia solution was applied to a patch of psoriasis by means of sterile gauze covered with waxed paper and held in place by means of a bandage. Twenty-four hours later the softened scales were removed aseptically, and planted in sterile glucose bouillon without washing, no attempt being made to remove the adherent chrysarobin. These cultures invariably showed the presence of cocci.

A similar experiment conducted with a 1 per cent. suspension of calomel showed that the cocci in the scales were destroyed. After removing the softened scales aseptically they were washed to remove as much calomel as possible before culturing. Cultures of adjoining untreated psoriatic patches made at the same time invariably showed the presence of various cocci and diplococci.

As a further test of the germicidal activity of chrysarobin upon staphylococci in the presence of living body fluids, the following experiment was conducted on two occasions with similar results: 0.2 gram of chrysarobin was rubbed up in sterile bouillon in a sterile mortar until a smooth paste was secured. This paste was then placed in a sterile collodion capsule and inoculated with a separate loopful of a culture of *Staphylococcus aureus*, and a thorough mixture secured. A subculture made immediately on agar showed a rich growth of the cocci. The capsule was sealed and placed within the peritoneal cavity of a rabbit under ether anæsthesia and with aseptic precautions. A week later the capsule was removed and the contents cultured. In both instances living cocci were found. The chrysarobin had become darker in color.

E. Concerning the Germicidal Action of Sodium Chrysophanate in Vivo Upon Staphylococci.

As this substance is freely soluble in water, it was quite easy to study experimentally its germicidal activity in vivo. First, however, it was necessary to determine the toxicity of the substance, which was accomplished in the following manner:

Two rabbits were given repeated injections of sodium chrysophanate in distilled water. Two solutions were prepared: (a) 1 gram sodium chrysophanate in 24 cc. distilled water, and (b) 1 gram in 49 cc. water. Both solutions were shaken mechanically for an hour and filtered. There was always some undissolved residue. The filtrates were heated to 56° C. for an hour, to guard against infection, and administered by intravenous injection.

EXPERIMENT A. Rabbit, weight 1,484 grams. Received intra-

venously every two or three days, 10 cc. of an approximately two per cent. solution of sodium chrysophanate. Five injections were given, equalling about 1 gram, or 15 grains of sodium chrysophanate. The animal was kept in a metabolism cage and the urine examined daily. At no time were albumen, blood or casts found. During the sixteen days of the experiment the animal gained 236 grams in weight.

Autopsy was performed five days after the last injection and all organs, both grossly and microscopically, were normal.

EXPERIMENT B. Rabbit, weight 2,095 grams. Received intravenously every two or three days, 10 cc. of an approximately four per cent. solution of sodium chrysophanate. Seven injections were given, equalling about 2.8 grams, or 42 grains of sodium chrysophanate. The rabbit was kept in a metabolism cage and the total urine examined each day. At no time was there any evidence of renal irritation; no albumen, blood or casts. During the sixteen days of the experiment the animal gained 295 grams.

Autopsy was performed three days after the last dose. Both grossly and microscopically, all organs and tissues were normal.

Having determined that sodium chrysophanate had no injurious effect upon the parenchymatous organs, the question of its germicidal action in vivo was approached experimentally in the following manner:

A solution of sodium chrysophanate was prepared by dissolving 1 gram in 24 cc. sterile distilled water and shaking for an hour. This gave approximately a 4 per cent. solution. Rabbits were injected intravenously with increasing doses of this solution, and a constant dose of a filtered 24 hour bouillon culture of *Staphylococcus aureus*, our object being to determine whether sodium chrysophanate would exert a germicidal influence and prevent the development of abscesses in the kidneys, heart, etc. Several rabbits were injected with culture alone, metastatic abscesses developing in the kidneys and heart in every instance.

EXPERIMENT C. Rabbit. Received an intravenous injection of 0.5 cc. solution sodium chrysophanate (.02 gram) and 2.0 cc. culture of *staphylococcus*. Animal autopsied three days later. Abscesses in the heart and kidney.

EXPERIMENT D. Rabbit. Received an intravenous injection of 1.0 cc. solution sodium chrysophanate (.04 gram) and 2.0 cc. *staphylococcus* culture. Animal autopsied three days later. Multiple pyæmic abscesses.

EXPERIMENT E. Rabbit. Received an intravenous injection of

2.5 cc. solution sodium chrysophanate (0.1 gram) and 2.0 cc. staphylococcus culture. Autopsy three days later showed numerous abscesses in heart and kidneys.

EXPERIMENT F. Rabbit. Received an intravenous injection of 5 cc. solution sodium chrysophanate (0.2 gram) and 2.0 cc. culture of staphylococcus. Animal autopsied three days later. Numerous pyæmic abscesses in heart and kidneys.

EXPERIMENT G. Rabbit. Received an intravenous injection of 8 cc. solution sodium chrysophanate (0.32 gram) and 2.0 cc. culture of staphylococcus. Animal was autopsied three days later and showed numerous pyæmic abscesses.

EXPERIMENT H. Rabbit. Received an intravenous injection of 10 cc. solution sodium chrysophanate (0.4 gram) and 2.0 cc. culture of staphylococcus. Autopsy three days later showed abscesses in the heart and both kidneys.

EXPERIMENTS I, J, K. These were repetitions of experiment H, and in each instance abscesses were produced in both kidneys.

EXPERIMENT L. Rabbit. Received an intravenous injection of 15 cc. solution sodium chrysophanate (0.6 gram) and 2.0 cc. staphylococcus culture. Animal autopsied three days later showed numerous abscesses in both kidneys.

These experiments tend to show that neither chrysarobin nor its oxidized derivative has a demonstrable germicidal activity on virulent staphylococci in the presence of the body fluids. As previously stated, sodium chrysophanate had been found feebly germicidal *in vitro*, but in the living animal the substance is so diluted in the blood, or this action is so feeble, as to be without power of inhibiting or destroying staphylococci.

F. Concerning the Action of Sodium Chrysophanate in Experimental Trypanosomiasis.

The action of sodium chrysophanate *in vivo* was further studied on a race of trypanosomes. These experiments were undertaken mainly because of the fact that certain substances, for instance salvarsan, appear to have a higher parasiticide action on animal parasites, such as trypanosomes and spirochaetes, than upon vegetable microorganisms, such as the ordinary pathogenic bacteria. *Our results show that sodium chrysophanate is lacking in a parasiticide action upon the race of trypanosomes employed.*

White rats were infected with a strain of *Trypanosoma lewisi*. This strain has been used for over three years, and produces a fatal

infection in a small percentage of animals after the third week of infection. Five days after intra-peritoneal injection of these trypanosomes, the blood is found to contain large numbers. Seven days after infection a series of rats received increasing doses of sodium chrysophanate intravenously in the jugular vein, the blood being examined just before the injection and at intervals of 2, 4, 24, 48 and 72 hours after injection.

EXPERIMENT M. White rat. Blood contains large numbers of trypanosomes. Received intravenously 0.5 cc. of a two per cent. solution of sodium chrysophanate (0.01 gram). No effect upon the trypanosomes, numbers and motility remaining unchanged.

EXPERIMENT N. White rat. Received intravenously 1.0 cc. of solution of sodium chrysophanate (0.02 gram). No effect upon the trypanosomes.

EXPERIMENT O. White rat. Received intravenously 2.0 cc. of solution of sodium chrysophanate (0.04 gram). Four hours later the blood showed some laking, due to the action of distilled water, but with no appreciable effect upon the trypanosomes.

EXPERIMENT P. White rat. Received intravenously 4.0 cc. of solution of sodium chrysophanate (0.08 gram). Blood showed considerable hæmolysis for twenty-four hours. No effect upon the trypanosomes.

II. ARSENIC.

Arsenic has enjoyed greater reputation as an internal remedy in psoriasis than any other drug. It acts at times in the promptest and most gratifying manner, while in other cases it fails altogether. The experiments below detailed had for their object the determination of the germicidal properties of arsenic in the test tube and in the animal body. Interest in the possible parasiticide properties of arsenic has been renewed in view of the arsenical structure of salvarsan and allied products.

G. Concerning the Germicidal Action of Arsenic in Vitro Upon Staphylococcus Albus.

In solution, arsenic is usually administered internally in the form of potassium arsenite or Fowler's solution. Using undiluted Fowler's solution, which is a one per cent. solution of arsenious acid in an alkaline menstruum, we have tested its germicidal activity according to the Hygienic Laboratory method, with phenol as the control germicide.

TABLE 4. THE GERMICIDAL VALUE OF FOWLER'S SOLUTION.

Temperature of medication, 20° C. Culture used, *Staphylococcus albus*, 24 hour, extract broth, filtered. Proportion of culture and disinfectant, 0.1 cc. + 5 cc. Organic matter, none. Kind, none. Amount, none. Subculture media, standard extract bouillon. Reaction, + 1.5; quantity in each tube, 10 cc.

Dilution.	Culture Exposed in Minutes.						Phenol Coefficient.	Remarks.
	2½	5	7½	10	12½	15		
Phenol {	1:40	-	-	-	-	-		
	1:60	-	-	-	-	-		
	1:80	+	+	-	-	-		
	1:100	+	+	+	-	-		
	1:120	+	+	+	+	-		
	1:160	+	+	+	+	+		
Arsenious Acid {	1:100	+	+	+	+	+		Coefficient cannot be expressed. Arsenious acid possesses no germicidal properties in saturated aqueous solution 1:100.
	1:120	+	+	+	+	+		
	1:150	+	+	+	+	+		
	1:200	+	+	+	+	+		

That Fowler's solution, however, possesses slight antiseptic and germicidal action for staphylococci is demonstrated in the following experiment which has been repeated a number of times with the same result:

To a series of tubes containing 5 cc. sterile neutral bouillon was added 0.1 cc. of 24 hour broth culture of staphylococcus and increasing doses of Fowler's solution: 0.1 cc., 0.2 cc., 0.3 cc., 0.4 cc., 0.5 cc., 0.6 cc., 0.8 cc., 1.0 cc., and 2.0 cc. After incubating 48 hours, along with a culture control, it was found that growth of staphylococci was inhibited by 0.2 to 0.4 cc. of the Fowler's solution.

In other words, Fowler's solution is slightly antiseptic, this property being detected only when the test microörganism is exposed for a prolonged period of time to the solution.

H. Concerning the Germicidal Action of Sodium Arsenate in Vitro Upon Staphylococcus Albus.

A 20 per cent. aqueous solution of this arsenical was tested against the coccus in exactly the same manner as was Fowler's solution. Here likewise this substance was found devoid of germicidal activity as tested by the Hygienic Laboratory method.

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TABLE 5. THE GERMICIDAL ACTIVITY OF SODIUM ARSENATE.

(Twenty per cent. aqueous solution.)

Dilution.	Culture Exposed in Minutes.						Phenol Coefficient.	Remarks.
	2½	5	7½	10	12½	15		
Sodium Arsenate {	1:5	+	+	+	+	+		Coefficient cannot be expressed, as sodium arsenate, in 20 per cent. aqueous solution possesses no germicidal properties.
	1:10	+	+	+	+	+		
	1:15	+	+	+	+	+		
	1:20	+	+	+	+	+		

I. Concerning the Germicidal Action of Arsenious Acid in Vivo on *Staphylococcus Aureus*.

These experiments are of particular interest because salvarsan, for instance, is well known to have much less parasiticide activity in the test tube than in the living body fluids. Therefore, before the germicidal activity of Fowler's solution can be discussed intelligently it is necessary to test it out experimentally under these conditions. We have attempted to do this against a virulent culture of *Staphylococcus aureus*.

Fowler's solution is composed of 1 gram of arsenious acid in 100 cc. distilled water with sufficient alkali to aid solution. Taking 0.5 cc. as the average dose for a 70 kilo man, it is found that about .007 cc. is the equivalent dose per kilo of weight. This amount of Fowler's solution equals .00007 gram of arsenious acid.

A series of rabbits were given intravenously increasing doses of Fowler's solution with 1 cc. of a 24-hour broth culture of a virulent *Staphylococcus aureus*.

EXPERIMENT A. Rabbit. Weight 1547 grams. Received intravenously .01 cc. Fowler's solution (.00007 gram arsenious acid) and 1 cc. broth culture of *Staphylococcus aureus*. Autopsy three days later showed numerous abscesses in the heart and both kidneys.

EXPERIMENT B. Rabbit. Weight 1367 grams. Received intravenously .02 cc. Fowler's solution (.00014 gram arsenious acid) and *staphylococcus* culture. Rabbit became toxic and autopsy three days later disclosed albuminous degeneration and numerous abscesses in both kidneys and heart.

EXPERIMENT C. Rabbit. Weight 1586 grams. Received intravenously .04 cc. Fowler's solution (.00028 gram arsenious acid)

and staphylococcus culture. Rabbit died after three days, showing numerous abscesses in both kidneys.

EXPERIMENT D. Rabbit. Weight 1810 grams. Received intravenously .06 cc. Fowler's solution (.00042 gram arsenious acid) and staphylococcus culture. Rabbit died within forty-eight hours, showing numerous microscopic abscesses in both kidneys.

These experiments tend to show that arsenic in the form of Fowler's solution has no demonstrable germicidal activity upon staphylococci, even in an amount equalling the lethal or fatal dose. However, it was thought that arsenic might have a greater parasiticide action upon animal parasites such as trypanosomes than upon vegetable microorganisms. Accordingly we have conducted a number of experiments on white rats with *Trypanosoma lewisi*, as follows:

J. Concerning the Parasiticide Value of Arsenic in Experimental Trypanosomiasis.

A series of rats, infected with the *Trypanosoma lewisi*, were given increasing intravenous doses of arsenic in the form of Fowler's solution, and the blood examined 4, 24, 48, and 72 hours after injection for the effect upon the trypanosomes.

EXPERIMENT A. Rat. Weight 110 grams. Received intravenously .001 cc. Fowler's solution (.000007 gram arsenious acid). No effect was produced upon the trypanosomes.

EXPERIMENT B. Rat. Weight 115 grams. Received intravenously .005 cc. Fowler's solution (.000035 gram arsenious acid). No effect could be noted upon the number or motility of the trypanosomes.

EXPERIMENT C. Rat. Weight 112 grams. Received .01 cc. Fowler's solution (.00007 gram arsenious acid). No effect was produced upon the number of trypanosomes.

EXPERIMENT D. Rat. Weight 120 grams. Received .02 cc. Fowler's solution (.00014 gram arsenious acid). Animal did not show any toxic effect; the number of trypanosomes was slightly decreased. This experiment was repeated twice with the same appreciable decrease in trypanosomes, although complete sterilization was not found to occur in any case.

EXPERIMENT E. Rat. Weight 118 grams. Received .03 cc. Fowler's solution (.00021 gram arsenious acid). Animal became somewhat toxic and the number of trypanosomes became less, but complete sterilization did not occur.

These experiments indicate that arsenic in the form of Fowler's

solution has an appreciable parasiticide action upon the race of trypanosomes used, although the parasitotropic dose is almost equal to the organotropic or lethal dose of the drug.

III. PYROGALLIC ACID.

Pyrogallic acid is, like chrysarobin, a powerful reducing agent and is only second in efficiency to chrysarobin in its effect on the lesions of psoriasis. Owing to the solubility of pyrogallol in water, the determination of its germicidal properties offered no such difficulties as presented themselves in connection with the study of the germicidal activity of chrysarobin.

We have studied the effect of pyrogallol on microörganisms *in vitro* and also the effect on staphylococci and on trypanosomes in living animals.

K. Concerning the Germicidal Activity of Pyrogallol in Vitro on Staphylococcus Albus.

These tests were conducted after the method of the Hygienic Laboratory as follows:

TABLE 6. THE GERMICIDAL ACTION OF PYROGALLOL.

Temperature of medication, 20° C. Culture used, *Staphylococcus albus*, 24 hr. bouillon culture, filtered. Proportion of culture and disinfectant, 0.1 cc., 5 cc. Organic matter, none. Kind, none. Amount, none. Subculture media, Standard extract bouillon. Reaction, + 1.5. Quantity in each tube, 10 cc.

Dilution.	Culture Exposed in Minutes.						Phenol Coefficient.	Remarks.
	2½	5	7½	10	12½	15		
Phenol {	1:40	-	-	-	-	-	$\frac{4}{60} =$.66
	1:60	-	-	-	-	-		
	1:80	+	-	-	-	-		
	1:100	+	+	+	-	-		
	1:120	+	+	+	+	-		
	1:160	+	+	+	+	+		
	1:320	+	+	+	+	+		
	1:640	+	+	+	+	+		
Pyrogallol {	1:4	-	-	-	-	-	$\frac{10}{120} =$.83 = Coefficient, .75
	1:5	+	-	-	-	-		
	1:10	+	+	+	-	-		
	1:20	+	+	+	+	+		
	1:30	+	+	+	+	+		
	1:40	+	+	+	+	+		
	1:50	+	+	+	+	+		

L. Concerning the Germicidal Action of Pyrogallol in Vivo Upon Staphylococcus Aureus.

While these experiments have shown the slight but definite germicidal action of pyrogallol in vitro, experiments in vivo have demonstrated that this activity is not sufficient to prevent fatal pyæmic and trypanosome infections. In this manner pyrogallol is closely similar to phenol, its parasiticide powers in vivo being neutralized by its relatively high organotropism.

Increasing amounts of a filtered, one per cent. solution of pyrogallol (Merck) in sterile distilled water were given intravenously together with 1 cc. of a broth culture of *Staphylococcus aureus*, to a series of rabbits. With the larger doses, several of the rabbits died of the toxic effects of pyrogallol, showing, however, numerous pyæmic abscesses in the kidneys and heart.

EXPERIMENT A. Rabbit. Weight 1350 grams. Received intravenously 1 cc. of pyrogallol solution (0.01 gram) and 1 cc. of a filtered 24-hour broth culture. Animal did not show any evidence of toxæmia. Autopsy forty-eight hours later showed numerous abscesses in both kidneys with albuminous degeneration.

EXPERIMENT B. Rabbit. Weight 1400 grams. Received intravenously 2.0 cc. of pyrogallol solution (0.02 gram) and 1 cc. of staphylococcus culture. Animal died forty-eight hours later, showing multiple abscesses in heart and kidneys and well marked albuminous degeneration of kidneys.

EXPERIMENT C. Rabbit. Weight 1635 grams. Received intravenously 5.0 cc. of pyrogallol solution (0.05 gram) and 1 cc. of staphylococcus culture. Animal was quite toxic when autopsied forty-eight hours later. Numerous abscesses in heart, kidneys and abdominal muscles.

EXPERIMENT D. Rabbit. Weight 1590 grams. Received intravenously 10 cc. of pyrogallol solution (0.1 gram) and 1 cc. of staphylococcus culture. Animal died forty-eight hours later, showing multiple abscesses in heart and kidneys and advanced cloudy swelling and beginning fatty degeneration of both kidneys.

M. Concerning the Parasiticide Value of Pyrogallol in Vivo on Trypanosomes.

This series of experiments also tends to show that pyrogallol exerts no appreciable parasiticide action upon *T. lewisi*, even in doses closely approaching the fatal organotropic or lethal dose of the drug.

White rats injected with a strain of *Trypanosoma lewisi* were used. Five days after intra-peritoneal injection of the rats with this strain, large numbers were to be found in the blood.

A 0.5 per cent. solution of pyrogallol in distilled water was prepared and increasing amounts injected intravenously in a series of rats. The blood was examined and the number of trypanosomes estimated just before the injections and at intervals of 2, 4, 24, 48 and 72 hours thereafter.

EXPERIMENT A. Rat. Weight 110 grams. Large numbers of trypanosomes in the blood. Received intravenously .0005 gram of pyrogallol. No appreciable effect was noted upon the number or motility of trypanosomes or upon the general health of the animal.

EXPERIMENT B. Rat. Weight 125 grams. Large number of trypanosomes in the blood. Received intravenously .0025 gram of pyrogallol. No effect upon trypanosomes or general health of animal.

EXPERIMENT C. Rat. Weight 98 grams. Large number of trypanosomes in the blood. Received intravenously .005 gram of pyrogallol. During the following 24 hours the blood, as secured by puncture, was quite viscid and dark and showed microscopically well marked hæmolysis. But there was no appreciable effect noted upon the number or motility of the trypanosomes.

EXPERIMENT D. Rat. Weight 128 grams. Large number of trypanosomes in the blood. Received intravenously 0.01 gram of pyrogallol. During the following 24 hours the blood, as secured by puncture, was quite viscid and dark, almost black in color. The animal, however, recovered and at no time was there any evidence of toxic influence upon the trypanosomes.

SUMMARY.

The experimental evidence at hand indicates that three of the most important drugs employed in the treatment of psoriasis, namely, chrysarobin and pyrogallic acid locally and arsenic internally, do not exert their curative effects through a germicidal action upon the cocci commonly found in psoriatic patches, taking the *Staphylococcus epidermidis albus* as an example of the group. Even when a celloidin capsule containing chrysarobin and staphylococci is placed in the abdominal cavity of a rabbit, and the drug thus permitted to come in contact with the body juices, no germicidal action on the staphylococci is observed. Our results would seem to indicate that these medicinal substances exert their bene-

ficial influence either through some germicidal action on a parasite peculiarly sensitive and as yet undiscovered or else through some biochemical influence.

That chrysarobin, in all probability, does not influence psoriasis through a direct local germicidal action is supported by the fact that such active germicidal substances as phenol, formalin, calomel, etc., in our experience, exert no appreciable influence upon the lesions of the disease. On the other hand, we have shown that calomel, an insoluble germicide, is capable, under certain conditions, of destroying the cocci in the scales of psoriasis patches. The spirochætidal effect of calomel is too well known to require mention.

CONCLUSIONS.

1. **CHRYSAROBIN.** (a.) Chrysarobin, as regards its influence on the *Staphylococcus pyogenes albus*, in the test tube and in the bodies of animals, fails to exert an appreciable germicidal effect.

(b.) Sodium chrysophanate, the sodium salt of chrysophanic acid, an oxidized derivative of chrysarobin, possesses no germicidal action in the test tube on the said *staphylococcus* in saturated aqueous solution within a period of 15 minutes. Exposed for long periods, a feeble germicidal activity is observed.

(c.) Intravenous injections of considerable doses of sodium chrysophanate in rabbits are harmless, but exert no restraining influence on the formation of abscesses in the viscera when simultaneous intravenous injections of the *Staphylococcus aureus* are given.

(d.) Sodium chrysophanate, when administered intravenously to white rats previously infected with the *Trypanosome lewisi*, exerts no perceptible influence on the motility or viability of the trypanosomes.

2. **PYROGALLIC ACID.** (a.) Pyrogallie acid, by the Hygienic Laboratory method, fails to inhibit the *Staphylococcus albus* except when the concentration is greater than 1 in 10 or 10 per cent. Phenol inhibits such growth in 1 per cent. solution. By another method, in which there is more prolonged exposure at incubator temperature, a much more decided germicidal power is evident.

(b.) Pyrogallie acid, in doses of 1 to 10 cc. of a 1 per cent. solution, fails to prevent pyæmic abscesses in the viscera of rabbits, when injected with a bouillon culture of *Staphylococcus aureus*. The larger doses cause cloudy swelling and fatty degeneration of the kidneys.

(c.) Pyrogallol in increasing doses of 0.5 per cent. solution, given intravenously in white rats, fails to exert an appreciable influence on the motility of trypanosomes.

3. ARSENIC. (a.) Fowler's solution, in 1 per cent. aqueous solution, possesses no germicidal effect in the test tube on the *Staphylococcus pyogenes albus*, after 15 minutes' exposure.

(b.) Sodium arsenate, in 20 per cent. aqueous solution, likewise has no germicidal effect on this organism, after 15 minutes' exposure.

(c.) Fowler's solution (representing 1% arsenious acid, in quantities of 0.2 to 0.4 cc. in 5 cc. of a sterile neutral bouillon), will inhibit 0.1 cc. of a 24-hour culture of *Staphylococcus aureus* after 48 hours' incubation. Smaller quantities fail to inhibit.

(d.) The intravenous administration, in rabbits, of six times the average dosage per kilogram of body weight, of an arsenious acid solution, does not prevent staphylococci from producing abscesses in the kidneys.

(e.) Arsenic appears to exert an inhibitive effect upon the number and motility of trypanosomes in the blood of white rats, but the dose required is a relatively large one.

4. CALOMEL. (a.) Calomel, in quantities of .0005 to .001 gram ($\frac{1}{120}$ to $\frac{1}{60}$ grain), is absolutely germicidal to the cocci contained in 0.1 cc. of a 24-hour broth culture of *Staphylococcus aureus*. That this germicidal action is not due to dissolved mercuric chloride is proven by mechanically shaking calomel in water, filtering through a Berkefeldt filter and plating the filtrate. The latter has been proven to possess no germicidal properties. Chemical tests of the emulsion and filtrate for mercuric chloride with hydrogen sulphide have been entirely negative.

(b.) Calomel in 1 per cent. suspension is capable of destroying the cocci of the skin, both on normal skin and in psoriatic patches. Chrysarobin under identical conditions fails to exert any appreciable germicidal effect.

5. No absolute conclusions as to the nature of psoriasis can be drawn from the above experiments, but they have a suggestive significance. Chrysarobin, a drug exhibiting a powerfully beneficial influence upon the patches of psoriasis, has extremely feeble germicidal properties. On the other hand, calomel, one of the best germicides known, has an indifferent effect upon psoriatic lesions.*

* A report of further experiments will appear in the February and March issues of THE JOURNAL.

PRIMARY EPITHELIOMA OF THE HAND.*

WITH REPORT OF A CASE OCCURRING AFTER TRAUMATISM AND
FOLLOWED BY METASTASES AND DEATH.

(From the Dermatological Department of the German Hospital, service of
Drs. A. F. Büchler and H. G. Klotz.)

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THE subject of primary cancer of the extremities has been so ably discussed by Rudolph Volkmann¹ and later by von Brunn,² that it would be difficult to add much that is new, until our knowledge of the essential nature of cancer is increased. My interest in the subject of cancer of the extremities, and of the hand in particular, was aroused by the opportunity to observe a case at the German Hospital which presented a number of unusual features. The history of this case is as follows:

The patient, James McD. (referred by Dr. A. C. Swenson, of Waterbury, Conn.), was a man 48 years of age, born in Ireland, a teamster by occupation. He had come to America when he was about 17 years of age and was unmarried. His parents, seven brothers and one sister had died from unknown causes. One brother and one sister were living. He had suffered from measles as a child. He had also previously suffered from an attack of "blood poisoning" in the left wrist, for which he had been treated at Bellevue Hospital. The wrist had been incised, according to his statement, and had healed at the end of sixteen weeks. He had always been a heavy smoker and a moderate drinker. He denied syphilis.

During the summer of 1911 the patient was bitten on the back of the right hand by a horse, causing an open wound at the junction of the fifth metacarpal bone and first phalanx. This had healed in the course of two weeks. About five or six months later, an open sore again appeared upon the back of the right hand, which gradually extended in area and became red, swollen, discharging and crusted.

When first examined, on January 15, 1913, the patient presented the following condition. He was a strong, vigorous man, of the laboring type, in apparent good general health, weighing about 200 pounds. The skin of the left hand showed the characteristic symptoms of ordinary senile skin, consisting of dryness, wrinkling, pigmentation, telangiectases and slight keratoses. The entire dorsal surface of the right hand (Fig. 1) was swollen, œdematous and tender, the swelling extending to the wrist and first phalanges. Upon this area were serpiginous, rather sharply bordered, ulcerating and crusted lesions, extending from the knuckles to the proximal ends of the metacarpal bones. The central portion was covered with epidermis, but was swollen, boggy and tender. By pressing upon almost any portion of the back of the hand, a considerable amount of thick, yellowish pus could be expressed. The clinical picture was that of a granuloma, due to tuberculosis, blastomycosis, actinomycosis or possibly syph-

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 14-16, 1914.

ilis, complicated by an extensive suppurating cellulitis. The diagnosis of an ulcerating gummous syphilide was not considered probable, as there was so little tendency to healing. In addition, the Wassermann reaction was negative, there were no other signs of syphilis and the history was negative.

The patient was then sent to the German Hospital, service of Dr. A. F. Büchler (admitted February 17, 1913), where a biopsy was made, which showed the presence of a most typical squamous cell epithelioma. As this result was so unexpected, a second biopsy was performed, and the same condition found. A culture of pus failed to show the presence of blastomyces, and none was found in the stained sections. No actinomyces were found. A histological examination by Dr. Walter J. Heimann showed the following condition (Fig. 3):

"Eosin-hæmatoxylin stain. The epidermis is acanthotic; in many places proliferations of this layer into the cutis are visible. These proliferations vary in size and contour. Throughout the cutis there are islands of all sizes and shapes, consisting of malignant cells. A great many epithelial pearls are present. In addition to these neoplastic features, the changes characteristic of chronic inflammation are present, viz.: dilated blood and lymph vessels and infiltrations, made up of round cells chiefly, and fibroblasts. Diagnosis, squamous-cell carcinoma."

At a meeting of the Manhattan Dermatological Society (*Jour. Cutan. Dis.*, Jan., xxxii, p. 50), where the case was presented, it was generally agreed that without the histological examination the presence of an epithelioma would not have been suspected. The hard border, so characteristic of this disease, was certainly not in evidence.

The patient was given six X-ray exposures, and treated by wet dressings of permanganate of potash, refusing to have an operation performed. On June 9th he presented the condition shown in Fig. 2. A considerable change had taken place in the ulcerated areas, and particularly in the purulent discharge. The entire hand seemed larger and the œdema had extended to the beginning of the second phalanges of the fingers and of the thumb.

When first seen, he appeared to be in fair general health, although he complained of some difficulty in swallowing. An examination of the chest showed the presence of coarse râles upon the right side posteriorly and a slight dullness and diminished breathing between the right scapula and the vertebral column. A radiogram of the chest (Fig. 4) was taken on May 31 by Dr. William H. Stewart, who reported as follows: "Stereo-radiographic examination of the

œsophagus, after giving the patient one ounce of bismuth subcarbonate in thick cream of wheat, reveals an obstruction at the level of the fifth dorsal vertebra and extending down to the lower border of the ninth. At the fifth, the bismuth shadows would indicate an extensive involvement; the irregularity of the shadows in the diseased area would indicate carcinoma."

The patient gradually began to lose weight and became cachectic. While at first there was no apparent enlargement of the cubital or axillary glands, a palpable enlargement of the latter finally appeared. The dysphagia steadily increased, and after a gastroenterostomy for its relief was performed, the patient died on June 24, no autopsy being allowed.

Considering the prevalence of cancer in general, it may seem surprising to know that cancer of the extremities is a comparatively rare disease. In a statistical report by Heimann,³ out of a total of 20,544 cases of carcinoma, only 207 affected the extremities. Again, in a total of 3,422 cases of cancer, tabulated by Gurlt⁴ according to the type of the disease and region of the body affected, there were 155 involving different parts of the extremities, as opposed to 1,160 involving the face. In a series of 548 cases treated at Billroth's clinic, and collected by von Winiwarter,⁵ only 9 affected the extremities. Von Bergmann, quoted by Neumann,⁶ found 17 cases in a series of 254 cases of skin cancer. Bulkley and Janeway,⁷ in a report of 417 cases of epithelioma observed in dermatological practice, mentioned only two as occurring upon the extremities.

The favorite site for cancer of the extremities is the leg, the hand being involved next in frequency. In a total of 368 cases of cancer of the extremities collected by von Brunn, 95 were situated upon the hand. The careful statistics of von Brunn include 223 cases collected by Volkmann, to which he added 46 observed at the von Brunn clinic, and, in addition, 99 other cases collected from the literature from the time of Volkmann's publication to 1903. He does not consider the statistics of Heimann available for a critical study of the subject, as in such a general report details are necessarily lacking.

In mentioning the comparative frequency with which the hand is affected by cancer, the striking fact must be recorded that in nearly all of these cases the disease affects the dorsal surface of the hand or fingers. The palm is only very rarely affected. Of the 95 cases of von Brunn above quoted, only two were cases of palmar cancer. Though this disproportion might be somewhat lessened in

a large number of cases, it is nevertheless most striking. The proportion is somewhat less in the figures of Franz,⁸ who found 3 palmar as opposed to 71 dorsal cases, including one palmar case which von Brunn had evidently overlooked.

To account for this comparative immunity of the palm to cancerous degeneration is certainly difficult. Accepting the fact that traumatism has a certain influence in the production of cancer, it seems strange, as Muehleck,⁹ Franz and others have pointed out, that the palm, which is subjected to more traumatism than any other region of the body, rarely suffers from cancer. This fact, according to Michael,¹⁰ certainly tends to lessen the importance of mechanical influence in the causation of cancer, and shows that more importance should be placed upon the histological structure of the various regions of the skin. Whether the freedom of the palm from cancer can be explained by the protection afforded from its thick horny layer, or by the fact that it is much less exposed to the actinic rays of the sun, which have an influence in the production of certain cancerous conditions, are academic questions which I am not prepared to answer.

In considering the predisposing causes of cancer of the extremities, Volkmann conveniently divided the cases into three groups, a classification which has been followed by a number of subsequent writers on the subject. The first group consisted of cases developing upon chronically inflamed tissue, as a result of ulcers, scars, fistulæ, osteomyelitis, lupus, etc. The second group included cases developing upon warts or moles, either congenital or acquired in later years. The third group consisted of cases arising in apparently normal skin. In a series of 321 cases, von Brunn found that 227 could be placed in the first group, 46 in the second, and 48 in the third. It is thus seen that the majority of cases developed upon a chronic inflammatory basis.

While a single traumatism may be followed by a cancer of the extremities, such a result is at least infrequent. In a study of the traumatic origin of tumors, Würz¹¹ found among 174 squamous cell epitheliomas (*Plattenepithelkrebs*) only 8, or 4.6% that arose after single traumatisms. Von Brunn writes that cases of carcinoma occurring a short time after a single traumatism are decidedly rare. He thinks that the nature of the traumatism plays a less important rôle than a number of other coincidental factors that are unknown to us. In my case, the traumatism due to the bite of a horse may, of course, have been a coincidence. The epithelioma may have had its origin in one of the slight keratoses which were undoubtedly

present on the back of the hand, as the opposite hand presented a number of slight keratoses and other changes of senile skin. A case somewhat similar to mine is recorded by von Winiwarter of a man of 58, who was bitten on the back of the hand by a horse, and six weeks later developed an epithelioma. The wound inflicted by the horse healed in three days, and shortly after, a pea-sized nodule was noticed near the scar, which grew rapidly and soon ulcerated. The lesion was excised, and within two months new nodules appeared. These were again excised, and a permanent cure obtained, no further relapse occurring during the following five and a half years. One of the cases recorded by Würz was a cancer of the forearm following a bite by a pig, ten years previously, while another case, quoted by Volkmann, occurred upon the back of the hand of a man of 50 years old, developing in the scar of a dog bite which he had received in early youth.

An interesting and peculiar feature of cancer of the hand, as well as of the entire extremities, is its comparative benignancy, in spite of the fact that histologically the type of the disease is malignant. There can be no doubt that the large majority of cases of cancer of the extremities are of the squamous cell type. Volkmann states that all of the cases reported showed plainly the character of squamous cell epithelioma (Hornkrebs), and says further that types corresponding to rodent ulcer or epithelioma originating from sebaceous or sweat glands, do not appear to have been observed. Von Brunn, in speaking of 46 cases observed at the Tübingen clinic, states that the microscopical picture is that of squamous cell epithelioma, often of pronounced type—"Plattenepitheliomcarcinoms oft von ausgesprochenem Charakter Hornkrebs." In his Inaugural Dissertation, Neumann states that almost all cancers of the extremities are typical squamous cell epitheliomas with epithelial pearls—"Hornkrebs mit Kankroidperlen (Krebszwiebeln)."

In spite of the malignancy of these cases from a microscopical standpoint, there can be no doubt that clinically they are relatively benign, generally running a slow course and only late, if at all, invading lymphatic glands. Weilepp,¹² in his Inaugural Dissertation, concludes that cancer of the back of the hand gives relatively the best prognosis of skin cancers, if the cases (few in number) developing from congenital warts are excepted. Labiche,¹³ in his thesis upon epithelioma of the hand, writes that in spite of progressive and continual development, there is little tendency to glandular involvement. Bouch,¹⁴ in his thesis upon epithelioma of the back of the hand, comes to similar conclusions, and states that

the disease in this situation has a slow progress and almost never causes general cachexia. "In spite of its progressive course," he states, "it has little tendency to glandular involvement." In writing upon senile epithelioma of the back of the hand, Le Couëdic¹⁵ calls attention to its frequent long duration, and recalls the case of Echevin,¹⁶ in which an epithelioma of the thumb was said to have existed 26 years. Le Couëdic also quotes Heurtaux as giving the average duration of life in cancer of the extremities as between 8 and 9 years. Such a duration, he adds, is certainly long in comparison with that of visceral cancer, with an average length of life of 1 to 2 years. He thinks, however, that epithelioma of the back of the hand is considerably more favorable than would appear from the above figures, especially when the local causes of irritation are reduced to a minimum. From what has been said it is evident that the course and termination in my case were exceptions to the rule, as the entire duration was about 3 years, resulting finally in metastases and death.

The statement frequently made that the glands in anatomical relation to cancer of the extremities do not often become enlarged, is not strictly accurate. They do enlarge quite frequently from the chronic inflammatory process, though not from cancerous involvement. Indeed, as von Brunn points out, the glandular swelling disappears in many cases after removal of the cancer. At all events, carcinomatous involvement of neighboring lymphatic glands and subsequent generalization of the disease is rare in cancer of the extremities. The question as to why this should be so, cannot be answered with any certainty. A plausible reason has been suggested by Volkmann, in the walling off of the malignant growth by the chronic inflammatory condition of the surrounding tissue and the sclerotic nature of the base of the tumor.

From what has been said in regard to the slow course of the disease and slight tendency to glandular involvement, it follows that the prognosis is comparatively favorable. Another circumstance contributing to this result is the fact that cancer of the hand and extremities in general is naturally better suited to radical removal by extirpation, amputation, etc., than are malignant growths of other parts of the body.

In support of the probability that in my case the growth upon the hand was a primary manifestation, it may be recalled that the lesions appeared in the scar that followed a traumatism, and that it existed 2½ years before any evidence of cancer appeared elsewhere in the body. In regard to cancer of the extremities being due to

a possible metastasis, von Brunn remarks that hæmatogenous metastases of the extremities, without simultaneous involvement of the lungs, are extremely rare.

CONCLUSIONS.

1. Epithelioma of the hand is a comparatively rare disease.
2. In the vast majority of cases it occurs upon the dorsal surface.
3. In spite of being histologically, as a rule, a malignant type of cancer, it runs a slow and relatively benign course, seldom invading the lymphatic glands.
4. The majority of cases develop upon a basis of chronic inflammatory tissue. Very few arise after a single traumatism.

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DISCUSSION.

DR. SCHALEK said that a few years ago he saw a case very similar to the one reported by Dr. Fox. The lesion, which occupied the entire dorsum of one

hand, had a granulomatous appearance, and blastomycosis was at first suspected. The speaker said he did not suspect epithelioma, as he had never before seen such an extensive epithelioma in that location. The case was also unusual on account of the pain, which was so severe that the patient could not get any sleep. As the patient objected to a surgical procedure, X-rays were tried, but had no effect. The growth was then excised and skin grafts were applied, but the operation was followed by an early recurrence. The glands in the axilla became enlarged, probably due to metastases, and the patient was then referred to a surgeon, for an amputation of the arm. He had no knowledge of the further history of the case, but the outlook was not favorable.

DR. PTSEY said he had seen a considerable number of epitheliomata on the back of the hand, and his experience did not accord with the statement made that they were more common on the legs than below the elbows. Furthermore, his personal observation had led him to the belief that epitheliomata on the back of the hands were relatively not very dangerous, but from that class he would exclude those cases where the epithelioma occurred on an X-ray burn.

DR. HARTZELL said he had seen three or four cases of epithelioma following almost immediately after a slight injury. One was that of a woman, about 55 years old, who received a slight scratch on the end of her nose inflicted by the finger-nail of her grandson. The scratch never healed, and was followed in a few weeks by a typical epithelioma. In another case an epithelioma developed on the inner surface of the lip immediately after a traumatism inflicted by a dentist. In two other cases, carbuncles on the back of the hand were followed almost immediately by epitheliomata, the carbuncles never having healed.

DR. ENGMAN said the case reported by Dr. Howard Fox was extremely interesting on account of the epithelioma occurring so soon after the traumatism. It was apparently an illustration of Ribbert's theory, namely: that normal epithelium on an ulcerated surface may become misplaced and separated from its kindred, undergoing an atypical physiological function, and rather rapidly developing into epithelioma.

Dr. Engman said they saw quite a number of cases of epithelioma on the back of the hand at the Barnard Free Skin and Cancer Hospital, usually following a keratosis. They had also had several cases of epithelioma on the back of the hand following X-ray burns. These seemed to be the result of the impaired regenerative power of the tissues and the poor condition of the vessels. In these cases the epithelioma was always preceded by a certain amount of degeneration in the connective tissue. In Dr. Fox's case there were keratoses on the other hand, and it was possible that they were also present on the injured hand, and that the injury accelerated their development into epithelioma.

DR. WENDE exhibited a photograph of an epithelioma of the plantar surface of the foot, following an injury. This he considered interesting when taken in connection with the statistics given by Dr. Fox, on account of the rarity of palmar and plantar epithelioma. Another feature also like that of the case of Dr. Fox was that the patient gave a history of a previous injury. When first seen, there was a hypertrophic lesion, as shown in the reproduction. A tiny piece of the border was removed and the microscopical examination proved it to be a basal cell epithelioma. Amputation of the limb seemed to be required for a cure, as the underlying parts were considerably involved. The patient, a male resident of Cuba, aged 56, died under anæsthesia on the operating table.

DR. WILE remarked that in cancer of the hand following arsenical keratoses there was a notable exception to the benign nature of cancers in this location, as mentioned by Dr. Fox. The literature shows such cancers to be relatively malignant.

DR. POLLITZER said that these cases of epithelioma following trauma, with displacement of epithelial cells, were analogous to the epitheliomata sometimes produced in the old-time treatment of lupus, which consisted of poking the

lesion with a stick of nitrate of silver—a method which involved trauma and misplacement of cells from the surface into the depth of the corium. Epithelial naevi presented a similar condition, an embryonic misplacement of epithelial cells, and dermatologists were familiar with the type of cancer that developed as the result of stimulation of these misplaced epithelial cells. In some respects both the inversion epithelioma and the naevus epithelioma were embraced in Cohnheim's theory of cancer resulting from misplaced cells. In this connection, Dr. Pollitzer said he wished to raise a warning voice against the treatment of epithelial naevi, soft warts and moles of various kinds by cauterization, electrolysis or the use of carbonic acid snow. He could recall several cases of cancer developing on the base of the naevi treated by one of those methods, which were wrong in theory and dangerous in practice. When treated other than radically, some of the misplaced epithelial cells might be left behind, and these subjected to extraordinary irritation by the treatment, and the resulting scars were apt to proliferate and form cancer. An inclusion naevus should be either radically removed or let alone.

Dr. HAZEN said that through the kindness of Dr. Bloodgood, of the Johns Hopkins Hospital, he had had the opportunity of studying the records of one thousand cases of epithelioma of the skin. Of these, about 40 originated on the limbs, and of this number, 80% were of the prickle-celled type, and of these, every one developed metastases, some as much as five years later. This fact emphasized the importance of taking out the glands in every case of prickle-celled epithelioma.

Dr. Hazen said that care should be exercised in doing a biopsy on these lesions to prevent the escape of cancer cells into the vessels. The use of a dull, hot knife had been advocated.

Dr. CORLETT said that while his experience may have been exceptional, it was a fact that, next to epitheliomata of the face, the most frequent location in his observation was on the back of the hands, and he had been impressed with the common occurrence of metastases in those cases. He had accounted for this by the fact that the conspicuousness of lesions on the face led to their early removal, while on the hands they were liable to be neglected longer.

Dr. PUSEY said he questioned the accuracy of the statistics quoted by Dr. Hazen that every case of epithelioma of the back of the hand was followed by metastases in the axilla or elsewhere, nor did he think it necessary to advise extirpation of the lymph glands as far up as the axilla in all of these cases.

Dr. HAZEN, replying to Dr. Pusey, said it was only in the prickle-celled variety of epithelioma that glandular involvement seemed to be the invariable rule, and that in the basal-celled type the gland need not be removed.

Dr. HOWARD FOX, in closing, said that in his case the epithelioma developed about six months after the occurrence of the trauma. He did not, of course, claim that the trauma was the actual cause of the lesion. He had found records of two other cases of epithelioma of the extremities following bites of animals, one occurring six weeks and the other ten years after the infliction of the injury.

The speaker referred to Dr. Wende's interesting case of plantar epithelioma following an injury, and said that, from what he had been able to learn, epitheliomata occurring on the sole were much more frequent than those on the palm, some of the former appearing to have had their origin in perforating ulcers. The majority of cases of cancer of the extremities originated in a chronic inflammatory process, such as leg ulcers, fistulae, scar tissue, lupus, etc. A relatively small number sprang from apparently normal skin.

In regard to the comparative malignancy of epitheliomata springing from X-ray burns, Dr. Fox said he could not speak authoritatively on that point, as his figures were taken from cases observed before the introduction of the X-rays. In the statistics quoted, the most malignant types were those developing on congenital warts or moles.

PLATE XLIV.—To Illustrate Article on Primary Epithelioma of the Hand,
by HOWARD FOX, M.D.



Fig. 1.

Epithelioma following a bite from a horse. Duration, about one year.



Fig. 2.

Four months later, after treatment by X-ray and wet dressings.



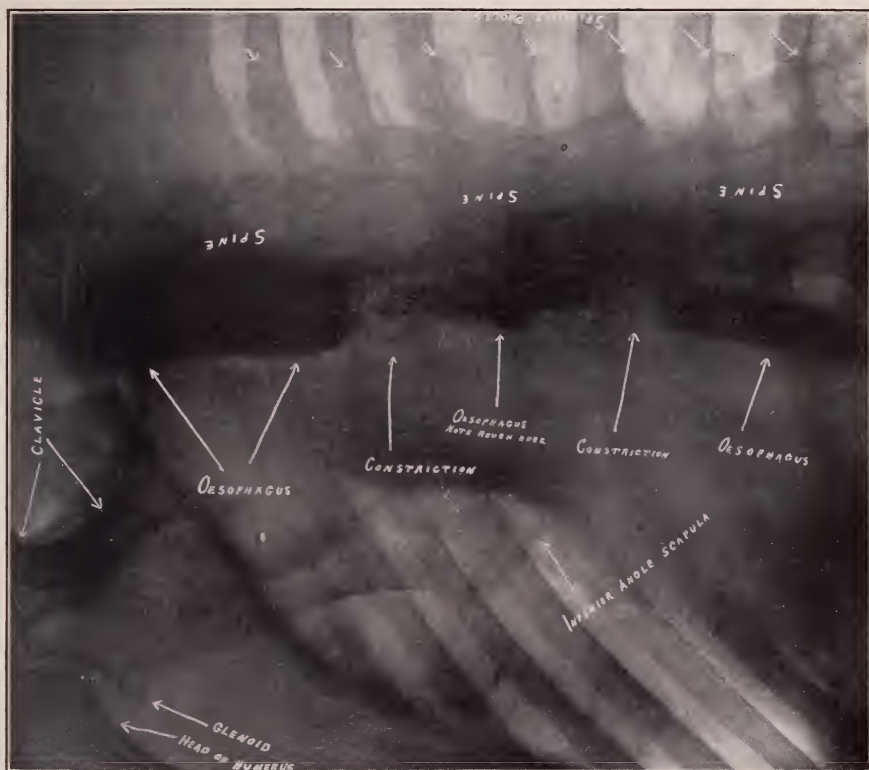


Fig. 4.

Oblique radiograph of the chest, with bismuth emulsion in the esophagus. Note the constrictions in the esophagus caused by the malignant growth.

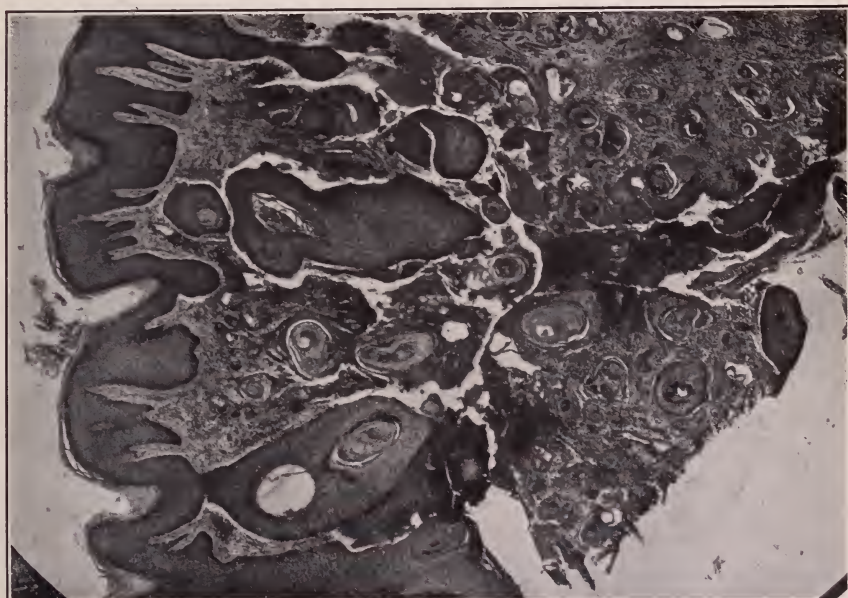


Fig. 3.

Squamous cell epithelioma. Numerous proliferations of epithelium into cutis, varying in size and shape. Throughout cutis are islands of all sizes and shapes, consisting of malignant cells. Many epithelial pearls present. In addition, changes of chronic inflammation are seen.



METABOLISM STUDY OF A CASE OF CHRONIC
URTICARIA.

By JACOB ROSENBLOOM, M.D., PH.D.,

and

M. C. CAMERON, M.D., Pittsburgh, Pa.

(From the Biochemical Laboratory of the Western Pennsylvania Hospital,
Pittsburgh, Pa.)

WE desire, at the present time, to describe certain findings we have obtained through a study of the metabolism of a female patient, afflicted with chronic urticaria for many years.¹

DIET IN METABOLISM EXPERIMENTS. The patient received during each twenty-four hours the following diet:

2 soft boiled eggs,	3 ounces cream,
6 ounces bread,	32 ounces milk,
3 ounces butter,	2 cups coffee,
2 bowls oatmeal,	$\frac{1}{4}$ lb. broiled chopped steak,
2 tablespoons sugar,	$\frac{1}{2}$ lb. mashed potatoes.

This diet consists of 100 grams protein, 110 grams fat, 200 grams carbo-hydrate, and 16 grams nitrogen, yielding a total caloric value of 2,225, or 35 calories per kilogram body weight of the patient. The methods of analysis used were the same as those previously described by one of us (R.).²

EXPERIMENTAL RESULTS. The following tables contain the data obtained in this study, allowing the following conclusions to be drawn:

(1.) In the three days there was a nitrogen retention of 5.08 grams. The urea nitrogen in relation to the total nitrogen is very low. It should be about 80 to 86 per cent. of the total nitrogen. This low urea nitrogen is no doubt due to some loss of function of the liver. The ammonia-nitrogen, uric acid, acidity, and ratio of uric acid nitrogen to the total nitrogen are normal.

(2.) There is a marked disturbance in the absorption of nitro-

¹For review of literature of metabolism studies in skin diseases, see SALOMON AND VON NOORDEN in: VON NOORDEN, *Metabolism and Practical Medicine*, 1907, iii, p. 745.

²*Amer. Jour. Med. Sci.*, 1911, cxlii, p. 7; *Int. Beitr. z. Path. u. Ther. d. Ernähr.*, 1911, iii, p. 5; *Amer. Jour. Med. Sci.*, 1913, cxlvi, p. 731; 1914, cxlviii, p. 65; *Arch. Int. Med.*, 1914, xiv, p. 263.

gen, as the faecal nitrogen in per cent. of the total nitrogen intake is about three times the normal. There was no diarrhoea, and we must, therefore, conclude that the patient shows a poor ability to absorb nitrogen, no doubt due to some intestinal condition.

(3.) The urinary sulphur partition is normal with the exception of the large amounts of neutral sulphur excreted on the first and second days. On the third day, when the neutral sulphur is normal, the ethereal sulphates show an increased amount. The high neutral sulphur is indicative of a lessened oxidative capacity, while the ethereal sulphate increase may be considered as an evidence of increased intestinal putrefaction.

(4.) The amount of fat in the stool is above the normal, showing an inability to absorb the usual amount. This is, also, no doubt indicative of some intestinal condition. The relation between the neutral fat, fatty acids and soaps of the faeces shows a poor ability to digest fats as shown by the high proportion of neutral fat.

(5.) In the three days there was a loss of 0.04 gram of calcium oxide and 0.01 gram of magnesium oxide, which is perfectly normal. The proportion of calcium and magnesium oxides excreted in the urine and faeces is also normal.

TABLE NO. I.—THE URINARY NITROGEN PARTITION, ACIDITY, AND NITROGEN METABOLISM.

Day.	URINE.							
	Total Nitrogen.	Urea Nitrogen.		Ammonia Nitrogen.		Uric Acid.		
			Per cent. of Total Nitrogen.		Per cent. of Total Nitrogen.		Nitrogen.	Per cent. of Total Nitrogen.
	gm.	gm.		gm.		gm.	gm.	
1	9.62	6.85	71.2	0.516	5.4	0.282	0.094	0.98
2	10.9	7.91	72.6	0.770	7.1	0.270	0.090	0.82
3	10.9	8.35	76.6	0.760	6.9	0.297	0.099	0.90

Day.	URINE.		FÆCES.		BALANCE.	
	Ratio of Uric Acid Nitrogen to the Total Nitrogen.	Acidity in Terms of N ₁₀ NaOH necessary to neutralize urine for twenty-four hours.	Nitrogen.		Intake of Nitrogen.	Balance of Nitrogen.
				Per cent. Nitrogen Intake.		
			gm.		gm.	gm.
1	1:102	331	3.7	38.4	16.0	+2.68
2	1:121	444	4.0	36.7	16.2	+1.30
3	1:111	536	4.0	36.7	16.0	+1.1

TABLE NO. II.—THE URINARY SULPHUR PARTITION.

Day.	Total Sulphur.	Total Sulphate Sulphur.		Inorganic Sulphate Sulphur.		Ethereal Sulphate Sulphur.		Neutral Sulphur.	
			Per cent. of Total Sulphur.		Per cent. of Total Sulphur.		Per cent. of Total Sulphur.		Per cent. of Total Sulphur.
	gm.	gm.		gm.		gm.		gm.	
1	0.67	0.50	74.6	0.46	68.6	0.04	6.0	0.17	25.4
2	0.92	0.68	73.9	0.62	67.4	0.06	6.5	0.24	26.1
3	0.80	0.74	92.5	0.58	72.5	0.16	20.0	0.06	7.5

TABLE NO. III.—THE FAT METABOLISM.

Day.	FÆCES.				
	Total Fat.	Per cent. of Fat Absorbed.	Soaps.	Fatty Acids.	Neutral Fats.
			Per cent. of Total Fat.	Per cent. of Total Fat.	Per cent. of Total Fat.
	gm.				
2	18.9	82.8	11.0	49.0	40.0
3	18.9	82.8	11.0	49.0	40.0

TABLE NO. IV.—THE CALCIUM AND MAGNESIUM METABOLISM.

Day.	URINE.		FÆCES.		INTAKE.		BALANCE.	
	Calcium Oxide.	Magnesium Oxide.	Calcium Oxide.	Magnesium Oxide.	Calcium Oxide.	Magnesium Oxide.	Calcium Oxide.	Magnesium Oxide.
	gm.	gm.	gm.	gm.	gm.	gm.	gm.	gm.
1	0.34	0.28	1.4	0.42	1.70	0.71	− 0.04	− 0.01
2	0.38	0.22	1.4	0.41	1.80	0.64	+ 0.02	+ 0.01
3	0.42	0.24	1.5	0.42	1.90	0.65	− 0.02	− 0.01

TABLE NO. V.—PERCENTAGE EXCRETION OF CALCIUM AND MAGNESIUM IN THE URINE AND FÆCES.

Day.	Calcium Oxide.		Magnesium Oxide.	
	Per cent. excreted in		Per cent. excreted in	
	Urine.	Fæces.	Urine.	Fæces.
1	19.5	80.5	40.0	60.0
2	21.4	78.6	34.9	65.1
3	21.8	78.2	36.4	63.6

CLINICAL REPORT.

A CASE OF ARTIFICIAL DERMATITIS.

By ANDREW J. GILMOUR, Ph.B., M.D., New York.

Consulting Dermatologist, Manhattan State Hospital; Assistant Attending Dermatologist, New York City Children's Hospital and Schools.

J. B., male; white, age, 9 years; nativity, United States; occupation, school; came under observation on Nov. 12, 1912.

PERSONAL HISTORY. A week ago, because of the condition of his face, this boy was sent away from school to see a physician. The patient has been always nervous and continuously swings his hands and feet. He is so nervous that he cannot remain at the table during an entire meal.

PRESENT HISTORY. For two years previous to June, 1913, there was an excoriation on the right side of the upper lip. This was probably from rubbing with the hands. There was another sore on the chin, which dates back 17 months, during which time, in spite of more or less treatment by zinc oxide salve, the lesion did not heal. This ointment has been applied every night for the past two months with but slight improvement of this condition of the chin.

The lesion under discussion is made by the patient protruding the tongue downward and outward toward the right; then he sweeps the tongue around the lower lip and chin to the left corner of the mouth, where for a short time he allows the tongue to remain. He then immediately wipes off the chin with the back of his hand. At times a handkerchief is substituted for the hand. This performance is kept up more or less all day.

Physical examination shows two affected areas. The first starts just below and $\frac{3}{4}$ of an inch to the outer side of the right corner of the mouth and downward and extends inward to just beyond the tip of the chin. This is a little less than an inch in breadth. The border is made up of four superficial pustular lesions, one of which has broken down and has formed a superficial ulcer, which is now healing. Above this area the skin is thickened and harsh. Small fissures radiate from the centre of the lower lip toward the pustular border. The bottom of these cracks are not wet and the ends of the fissures near the mouth have a black color.

The second patch, similar to the first, begins $\frac{1}{4}$ inch to the left of the left commissure of the mouth and extends downward and inward for an inch in a semilunar form. The convexity is outward. The lower end of this lesion, about $\frac{3}{4}$ inch below the angle of the mouth, extends directly inward and has a diameter of about one-half inch. It reaches half way to the centre of the lower lip and upward as far as the vermilion border of the lip.

SOCIETY TRANSACTIONS.

NEW YORK ACADEMY OF MEDICINE,
SECTION ON DERMATOLOGY.

Regular Meeting, May 5, 1914.

WILLIAM B. TRIMBLE, M.D., *Chairman.*

TUBERCULOSIS CUTIS FRAMBOESIFORMIS. Presented by DR. POLLITZER.

C. J., 31 years old, born in New York, had never travelled beyond the environs of this city. He was a printer by trade. His general health had always been good. The illness for which he was presented began three and a half years ago with small discoid ulcers on the hard palate. While some healed, fresh lesions developed and the process gradually extended to the gums and the upper lip. At this time attempts at inoculation of animals with fragments of tissue from an ulcer proved negative. His Wassermann reaction was persistently negative, but he was nevertheless given a course of six intravenous injections of salvarsan, after which some of the lesions healed. Fresh lesions soon appeared, however, extending on to the lip and upward toward the nose. When first seen, four months ago, the hard palate showed only the cicatricial remains of former lesions. The inner side of the upper lip, especially at the angles of the mouth, presented numerous, small, polycyclic ulcers. The cutaneous surface of the upper lip was covered with a papular, ulcerated, fungating mass, extending up to the nose and terminating sharply in an irregular serpiginous border. In the course of the next two months the process had extended to the nose, involving the entire lower portion of that organ, tip and alæ, and recently showed some lesions on the left cheek under the eye. The invasion of fresh areas began with the appearance of one or more red, obtuse oedematous papules; these increased in number to form a conglomerate mass, the surface of which, becoming eroded, exuded a thin, seropurulent fluid. Subjectively there was considerable pain. In the diagnosis, syphilis, tuberculosis, sporotrichosis and blastomycosis were considered. Syphilis was excluded by the negative history, negative Wassermann and comparative failure to respond to energetic salvarsan therapy, though there had been some improvement after salvarsan. Examination of the scrapings (slides and culture) from a fresh papule were negative for spore- and blastomycosis. These mycoses were further excluded by the failure of response to a vigorous iodide therapy and syphilis definitely excluded by the failure to respond to six injections of calomel. As to tuberculosis: the lungs were negative, von Pirquet positive; two guinea pigs inoculated with pieces of tissue, three weeks ago, had received a large injection of tuberculin and were still alive and apparently well. (One week later the inoculated animals were found to have enlarged glands, and on post mortem examination, miliary tubercles in the spleen. The bacilli were readily found in the affected organs.)

DISCUSSION.

DR. MACKEE said that he had recently seen two similar cases. One, in Dr. Fordyce's service at the City Hospital, was a colored boy who had an ulceration of the roof of the mouth for a year or more. Finally, vegetating lesions developed on the nose. Tubercle bacilli were found in the sections and guinea pigs were successfully inoculated.

The second case was in Dr. Winfield's service at the Kings County Hospital. This case was very similar to Dr. Fordyce's patient and it, too, was proven to be tuberculosis.

The speaker recalled another case which was seen in Dr. Fordyce's clinic about eight or ten years ago. In this instance there were a vegetating growth on the upper lip and nose, and ulcerations in the nose, throat and mouth. The histological sections showed a picture resembling both tuberculosis and syphilis. Inoculation experiments were negative, as also was the tuberculin test. This was before the *spirochæta pallida* had been discovered or the Wassermann reaction known, but syphilis was ruled out by the lack of response to vigorous antileptic treatment. The patient was from the tropics, which suggested the possibility of gangosa, and this is what the case proved to be.

DR. HEIMANN said that this case was probably one of tuberculosis which was much more common in this region than syphilis, and in such cases the Finsen light treatment gave excellent results.

DR. McMurtry said that the bacillus was exceedingly hard to find in this hypertrophic type of tuberculosis. He had found that such cases were usually very favorably influenced by intramuscular injections of calomel and was surprised that there was no improvement in this case.

DR. POLLITZER, closing the discussion, said that the histological examination had shown a granuloma with giant cells, sufficiently characteristic but not conclusive of a tuberculous process. Half a dozen sections stained for bacilli were negative. He would treat the patient with the X-ray, as this method was much less painful and disfiguring than curettage and caustics.

PEMPHIGUS VULGARIS. Presented by DR. GILMOUR.

C. F., female, aged 2 years and 9 months, was admitted to the hospital June 14, 1913. Since admission there had been attacks of bullæ and vesicles on various parts of the head, body and extremities. The patient had never been quite free from the lesions while in the hospital, nor had she ever been really sick from the disease. Itching has not been a feature of the condition; in fact, the patient had been almost free from that symptom. Treatment by lotions, baths and ointments had proved of little real value in checking the disease. Physical examination showed a free distribution of vesicles and small bullæ on the face and limbs. They were in various stages; some were new, others were broken down and covered with crusts, and still others were broken down, exposing raw surfaces.

DISCUSSION.

DR. KINCH said that when he first saw this patient, several weeks ago, there were large bullæ, which, on healing, left red spots. At that time the lesions occurred singly and not in groups, as at the time of presentation. There were present also lesions of the iris type—that is, a ring with a fresh lesion appearing in the centre. These were not present when the patient was first seen. There had never been any marked itching or other constitutional symptoms, and he still favored the diagnosis of pemphigus.

DR. WISE agreed with the diagnosis of pemphigus and suggested treatment with auto-serum.

DR. MACKEE agreed with Dr. Wise and thought that auto-serum treatment was indicated. At Dr. Fordyce's clinic, Dr. Hilario, a post-graduate student from the Philippines, had obtained very good results with this treatment in chronic bullous and vesicular diseases.

CASE FOR DIAGNOSIS. Presented by DR. GILMOUR.

M. B., aged 10, female, born in Syria. Admitted to the hospital February 11, 1914. Family history: Father, mother, one sister and two brothers all living and

well. They had been in this country thirteen months. Present history: The history obtained from relatives and the patient was not very satisfactory as to accuracy. The order of appearance of the lesions was first on the arms, the back of the left hand, then on the neck and later on the upper lip. The lesions were at least of four months' duration. Since admission to the hospital they had not changed in character. They began as tiny red spots and finally crusted. The Wassermann was negative. The lesions were uninfluenced by anti-specific treatment. Physical examination showed fine scars on the back which had been present many years. On the back of the left hand was a raised lesion, two and a half inches across. Pressure caused a few drops of pus to exude between the fissures. On the front of the left wrist, two inches above the base of the thumb, was a small, dark red, thickened and scaly patch. At the base of the right thumb was a lesion one inch in diameter that was thickened and cracked so that it gives one the impression of a chronic eczema. On the radial side of the middle third of the right forearm there was a small, thickened, scaly patch. At the junction of the middle and upper third of the posterior surface of the right forearm there was a thickened, scaly patch, three-quarters of an inch in diameter. At the centre of the upper lip there was a marked swelling, three-quarters of an inch in diameter, which was covered by a crust. This was not especially hard to the touch. To the left of the upper lip, just above and to the outer side of the angle of the mouth, there was a thickened patch one-half inch in diameter. This was covered by a scale. There were two similar lesions, the one situated under the left side of the ramus of the jaw, the other, one-half inch in diameter, was situated in the left side of the submental space. A larger lesion, one and a half inches in length, extended across the front of the neck near its junction with the chin; its breadth was one-half inch. It was fairly hard to the touch and covered by scales.

DISCUSSION.

DR. KINCH said that in this case no diagnosis was possible from the clinical appearance or from the history. A biopsy was necessary and an histological examination and cultures should settle the diagnosis. The lesions bore some resemblance to tuberculosis. They did not show the tendency to ulceration which was so common in cases of Aleppo Boil.

DR. POLLITZER suggested a diagnosis of a deep-seated ring worm, a granuloma trichophytina. The absence of ulceration in the four months of its duration, the multiplicity of the lesions, the presence of several flat, infiltrated, irregular patches, and the absence, in many of the lesions, of a round, even contour, were all opposed to the diagnosis of Aleppo Boil. He hoped a microscopic examination would be made.

LEPRA. Presented by DR. KINGSBURY.

The patient was a Greek, of large physique, 32 years of age. He gave a history of the development of the first symptoms two years ago, although the duration of disease was probably considerably longer. Numerous areas of anæsthesia on the trunk and extremities and considerable thickening of ulnar nerves were present. Nodules were present on the forehead, cheeks and ears, but the lesions of particular interest were found on the hard and soft palate. These were grouped nodules with circinate arrangement and superficial ulceration. The Wassermann reaction was negative.

DISCUSSION.

DR. POLLITZER said that the white raised nodules and annular lesions on the hard palate were absolutely characteristic of lepra and that those present in this patient were due to leprosy and not to syphilis. As to the contagiousness of

leprosy in this region, it was a fact that no case of the disease had been known to originate in this city, though for many years the Health Department had placed no restraint on lepers and cases were under observation that lived in our crowded tenement districts, in close contact with their families and friends without, as far as known, having conveyed the disease to any one.

DR. MACKEE said that this patient presented several scars on his body that were strongly suggestive of syphilis, and he thought that it was quite possible that both lepra and syphilis were present. The throat lesion was very interesting and large numbers of bacteria surely must be expelled every time the patient coughed.

DR. MCMURTRY said that patients with such lesions in the mouth discharged countless numbers of lepra bacilli in coughing and even talking, as had been proven by experiments by Prof. Schaeffer, of Breslau, in which they had been directed to talk and cough directly over sterilized plates. Bacilli were found on the plates in practically all cases.

PSEUDO-PELADE. Presented by DR. KINGSBURY.

The patient was a married woman, about 50 years of age. The first lesion appeared at the back of the scalp nearly 8 years ago, and later similar, though somewhat smaller, cicatricial areas developed on the top and sides of the scalp. When before the Section, there were present nine patches, varying from three-quarters of an inch to an inch and a half in diameter. No history of trauma or of sores in the scalp. The Wassermann reaction was negative.

DISCUSSION.

DR. MCMURTRY agreed with the diagnosis and called attention to the fact that there were no fresh lesions in this case, hence the white color of the affected areas.

DR. MACKEE agreed with the diagnosis, but objected to the name, as the disease bore no resemblance clinically or otherwise to alopecia areata.

VASCULAR NÆVUS TREATED WITH THE KROMAYER LAMP. Presented by DR. MACKEE.

The patient was from Dr. McMurtry's service at Dr. Fordyce's clinic. The Kromayer lamp treatment had been applied by Dr. Blanchard. The lesion was palm sized and was situated on the left side of the face. It was of the superficial type and of a dark red color. A total of 13 treatments had been applied. They were given at weekly intervals and each treatment lasted 20 minutes. A blue-quartz filter was used and strong pressure applied to effect dehæmatization. The treatments were followed by a severe reaction—erythema, vesiculation and crusting. Some areas had received two or three treatments. While the nævus was improved, the result was a disappointment and did not approach the results that were found in the literature.

DISCUSSION.

DR. HEIMANN said that the result of treatment with the Kromayer light probably depended on the depth of the nævoid process. Dr. Clark's cases, which had shown such marked improvement, had probably been superficial.

MYCOSIS FUNGOIDES. Presented by DR. WILLIAMS.

T. R., male, 65 years old, a widower. The disease began about two years ago, as an itchy, scaly redness on the flexor surfaces of elbows and knees, and on the inner surface of the thighs. It spread thence over the body, and reached the

stage seen on presentation, about two months ago. It involved the greater part of the trunk, arms and lower extremities. The forearms were free, except for a small area at the upper part of each. There were large, intensely congested areas, sharply outlined, smooth and rather shiny. When first seen, there was no scaling. The thickening was variable; scarcely perceptible in some parts, broad and diffuse in others, and in still others forming distinct nodular tumors. The color varied from a deep pink to a dusky red. The itching was very variable, and sometimes severe. The patient caught cold easily. He had never observed any tumors in his skin.

DR. MACKEE reported that the 5-year-old boy suffering with a widespread papulo-necrotic tuberculide and mouth and throat lesions resembling moist papules of syphilis, presented by him at the March, 1914, meeting of the Section, had been treated with salvarsan. As a result of one injection, the mouth and throat lesions disappeared, but the body lesions were not affected.

MANHATTAN DERMATOLOGICAL SOCIETY.

Regular Meeting, May, 1914.

DR. SATENSTEIN, *Chairman.*

EPITHELIOMA OF THE PENIS. Presented by DR. OCHS.

The patient, H. C., was a male adult, 74 years old. He was the father of fourteen children, six living and eight having died at varying ages. The patient had had gonorrhoea fifty-five years ago and chancroids fifty years ago. About eighteen months previously the patient noticed a small nodule under the foreskin, not painful, but hard to the touch. This grew slowly at first, and about one year later began to present itself in the sulcus, as a warty growth. It kept on growing so as to constrict the foreskin which became very tense. His physician then made a dorsal incision and the mass appeared as a large fungating verrucous mass about the size of a half dollar. Microscopical examination of a small piece from the edge of the mass showed it to be a papilloma. Dr. Syms enucleated the mass and it was dressed daily. The wound never healed entirely, and secreted a thin, sticky fluid. In the site of the enucleated mass a hard, cartilaginous infiltration began to appear. It had the feeling as if a button was inserted under the skin. This had grown very rapidly so that at the time of presentation it was the size of a half dollar, very hard to the touch, with sharply defined outlines and covered with normal skin everywhere but in its centre, where there was a bean-sized opening from which a thin sanguinous fluid was secreted. There was not nor had there been at any time any adenopathy nor was there any pain. The patient was otherwise in very good health.

DR. WEISS recited a case in a man whose penis, in consequence of a destructive phagædenic chancre, had to be amputated about an inch from its root. The most surprising part was the fact that the patient was able to generate a child. Although not an epithelioma, this case emphasized the fact that early amputation was the best method to preserve life and some degree of functional propagating activity.

LICHEN PLANUS HYPERTROPHICUS. Presented by DR. WISE.

The patient, Mrs. A. S., was 64 years old, born in Germany and had been a widow twenty-three years. She never had any illnesses, excepting arthritis of the hands and a goitre. The goitre had existed since the last twenty years, and

had caused no subjective disturbances. The skin of both forearms, especially on the extensor surfaces, and the anterior portion of the legs, from above the knees to the ankles, presented typical lesions of hypertrophic lichen planus. Recently she had received the Kromayer lamp treatment at one of the local dispensaries. The areas treated by the Kromayer lamp presented a considerable amount of dermatitis. She complained of intense pruritus. The disease was of seven months' duration.

DISCUSSION.

DR. MACKEE said that several cases of circumscribed lichen planus and lichen planus hypertrophicus had been treated at Dr. Fordyce's clinic with the Kromayer lamp and the results had been satisfactory.

DR. WISE said in addition to its other effects one must bear in mind the anti-pruriginous effect of the lamp. The woman said that after the areas had been treated with the Kromayer lamp the itching stopped almost immediately.

DR. MACKEE wished to add that they had had several cases of chronic local patches of lichen planus, where other remedies failed, although the Kromayer lamp was not used, which the X-ray reduced in one month's time.

MOLLUSCUM CONTAGIOSUM. Presented by Drs. MacKEE and McMurtry.

The patient was a female child, six years of age. The duration of her trouble had been one year. The lesions of molluscum contagiosum had been limited solely to the right and left cheek.

ULCUS RODENS. Presented by Dr. Oulmann.

The patient was a woman, 47 years old, born in Hungary. Five years previous to her presentation she developed "sores" on her left shoulder. The lesions extended from the supra-scapular bone over the left neck down to the mamma. The width was from the sternal to the mamillar line. She had been under Dr. Oulmann's treatment for about five weeks. The lesions were deep and granulating and had improved under X-ray treatment, which improved her general health also.

DR. MACKEE thought it unwise to treat this ulcer with small and oft-repeated doses of the X-ray. The lesion would probably improve for a time but would later increase in malignancy. The speaker favored one or two massive, filtered doses of the X-ray in such cases.

ERYTHEMA INDURATUM OF BOTH LEGS. Presented by Dr. Oulmann.

The patient, a female adult, had been shown to the Society some years before, at which time she had, beside an eruption of erythema Bazin, one of folliculitis. She showed at this second presentation some lesions of miliary tuberculosis in the mouth and some glands on the right neck. Dr. Oulmann wanted to show the gentlemen present the good results he had obtained in this case with the use of the phylacogen treatment. The diagnosis of the lesions in the mouth had been made clinically but not by section. They would disappear and recur.

DISCUSSION.

DR. KINCH said phylacogens are filtrates of bacterial cultures. One standard preparation was put forth by the makers, called "mixed phylacogen," which represents many strains of different species. Others were prepared by the addition to this standard of the filtered cultures of erysipelas, pneumonia, gonococcus or rheumatism germs, etc., which were used in the disease one desired to combat. Did Dr. Oulmann use the "mixed phylacogen" or one of the specific ones?

DR. OULMANN said the tubercle phylacogen.

DR. WEISS said he had experience with tuberculin and had had good effects in the treatment of these cases. If the phylacogen failed it might be well to try it in this case.

DR. OULMANN said he had used the von Pirquet in treating this patient one and one-half years and there had been no recurrence.

DR. MACKEE said that he questioned the diagnosis of the mouth lesions as tuberculosis of the mouth was not so intermittent. He suggested a diagnosis of simple stomatitis.

Regarding phylacogen, the speaker said he had given it a very fair trial in many dermatoses and had found it quite useless.

He understood that Dr. Oulmann had treated this patient with tuberculin and the speaker was inclined to attribute the poor result to improper technique. The speaker said he had reported a series of 15 successfully treated cases in *THE JOURNAL* for May, 1914.

DR. WEISS said he had shown a case of erythema induratum Bazin to the Society a few years previously which was treated with tuberculin. He gave one-half milligram several times, and the patient had had no recurrence since. The condition appeared pronouncedly on the legs and also in lesser degree on the thighs and upper arms.

DR. OULMANN said that with tuberculin injections he could not get along in this case without an intense reaction, which would not permit the continuation of tuberculin. The reaction of a von Pirquet would cause big sores. At the same time she had tuberculous glands of the neck. She was sick for two or three weeks after one small injection, so that he could not administer it.

TINEA BARBÆ WITH KERION. Presented by Drs. MACKEE AND WISE.

The patient, R. F., 23 years old, male adult, was born in Italy and came from Dr. Fordyce's clinic. Three weeks previously a pustule developed on the left side of the neck. This gradually increased in size until it resembled an ordinary furuncle. Shortly after, numerous pustules appeared in the hair follicles around the original lesion. These coalesced and resulted in a multilocular abscess. Examination of the hair from the affected region showed the presence of large-spored ringworm. He was given an intensive dose of X-rays one week previously, resulting in an almost complete disappearance of the lesion. The organism was cultivated in the dermatological laboratory and a specimen of the culture was exhibited by Dr. Sharpe.

MULTIFORM SECONDARY SYPHILODERM. Presented by DR. OCHS.

The patient, an adult negress, came under the speaker's observation three and one-half weeks previously at the Harlem Hospital, showing multiform lesions of the face and body. At that time there were distinct groups of vesicles around the angles of the mouth and nose. The lesions on the body were disseminate, small, infiltrated, punctate lesions, simulating the lesions of varicella. On both arms there were some hard, firm, brownish-red nodules. The patient was sent to Dr. Howard Fox for a Wassermann, which was 4 plus. The multiform lesions were those of the secondary stage of syphilis.

DISCUSSION.

DR. GEORGE HENRY FOX said he had never seen a vesicular syphilide although he had found it described in every text book with a page, more or less, devoted to it. He claimed there was no such thing as a true vesicular syphilide. A pustular lesion may develop with a little vesiculation at the outset, but it soon

became distinctly pustular. He would call the present case an acuminate or small pustular syphilide.

Dr. OGIS said he simply presented the case on account of the multiform lesions, and the case, when she came to him, certainly had distinct vesicles. The vesicles remained intact twenty-four hours before they changed to pustules. All new lesions distinctly appeared as vesicles. He did not want to designate this case as one of vesicular syphilide, but the lesions certainly appeared as vesicles. This case was presented as showing the many different changes that syphilis can show, namely, those on the face simulating a herpes, on the body a varicella, while on the arms the diagnosis was clearly a syphilide.

TUBERCULOSIS CUTIS VERRUCOSA. Presented by Dr. PAROUNAGIAN.

The patient, a female, 13 years of age, born in the United States, had a lesion on the dorsum of the left hand which had existed for the past five years. The lesion was about the size of a silver dollar, ulcerated and verrucous in appearance; she had a scar about the elbow of the same extremity. The patient's father informed the speaker that nine years previously she had had a sore on the neck, the scar of which was not perceptible. The Wassermann examination was negative. Examination for blastomycosis was negative and the result of the biopsy was not obtained at the time of the presentation.

DISCUSSION.

Dr. GEORGE HENRY FOX said he had seen tuberculosis of the back of the hand with ulceration which looked very much like this case. Although this case was somewhat unusual he thought it was tuberculosis and would call it such until a microscopical diagnosis was made and showed the contrary.

Dr. OULMANN regarded the case as a plain pustular tuberculosis. He did not think it was verrucous or that it was blastomycosis.

CASE FOR DIAGNOSIS. Presented by Dr. PAROUNAGIAN.

The patient was a female adult, 26 years of age, born in the United States and married. Her father and mother were both living, also three sisters and one brother. None had died. Her skin condition began about four and one-half years previously on the back of the neck and the upper portion of the chest. The lesions consisted of various sized macules, papules and patches, violaceous or purplish-red in color; some of them were simply elevations of the color of the normal skin, interspersed with whitish, scar-like atrophic lesions. The lesions were soft, spongy in texture, the orifices of the follicles were somewhat dilated and scaling was absent. She had no subjective symptoms, no itching or pain whatever.

A well-known dermatologist had seen the case and made a biopsy and diagnosis of myoma cutis.

DISCUSSION.

Dr. WISE stated that this case was almost a facsimile of a case which the speaker reported, of dermatolysis, where the lesions showed slight atrophy of the epithelial layer under the microscope and a myxomatous degeneration of the corium.

Dr. MACKEE said that the case recalled those reported by Dr. Wise, Dr. Gottheil and Dr. White. A diagnosis was very difficult, especially after such short observation. It suggested both the possibility of dermatolysis and of macular atrophy.

Dr. SATENSTEIN said he saw a great many of the sections made from a case

previously shown and they very markedly resembled Dr. Wise's case. The change was entirely in the collagen. For that reason this patient must have had two different diseases. As Dr. Gottheil said, the patient had cutaneous syphilis and also a disease resembling the case shown to-night. Dr. Satenstein looked over six hundred serial sections at the hospital. In the sections taken in October and those taken later all showed the same condition of hypertrophied swollen tissue, especially the sections taken from the edge of the lesions. The fibrous tissue was intact. In some of the special stains they could trace every one of the elastic fibers. They found something allied to Kaposi's sarcoma. They found an arteriole and found mostly spindle cells. Some of the cells looked like round cells, but nothing but spindle cells could be traced whether the sections were crossed, transversely or longitudinally. When they study this case more carefully, Dr. Satenstein thought they will find that it was either a sarcoma of the granulomatous type or sarcoid. He did not think Dr. Larkin would stick to the diagnosis of von Recklinghausen's disease. There was nothing suggestive of syphilis or tuberculosis. The girl had miliary tuberculosis of the tonsils, had a four plus Wassermann, had had eight injections of neosalvarsan, had had salvarsan and mercury and was still alive to a four plus Wassermann, and the so-called syphilitic lesions had not changed. They had taken on pigmentation and attention was also called to the basal-celled layer pigmentation. Not only in the basal cells had this taken place but in two or three layers of cells in the Malpighian bodies. They found a number of giant cells but these did not correspond to the giant cells ordinarily found in syphilis.

Dr. MOUNT said dermatolysis had been described under several heads as beginning symptoms of von Recklinghausen's disease, and resembled a piece of skin under which water had been injected. The other dermatolysis was described as pendulous skin.

Dr. MacKEE said in this case the first manifestation seemed to be erythema, then infiltration and lastly atrophy.

Dr. SATENSTEIN said as far as atrophy went, he did not think the condition had atrophied, it was simply a shrinking of the skin in their City Hospital case, a shrinking after the stretching.

Dr. OULMANN thought the case at the City Hospital showed an entirely different aspect to this case. Here they had a distinct inflammatory process with an atrophic point in the follicle which could be easily seen protruding, while in the other case there was a tumor formation. The process here started also with a follicular infiltration.

Dr. GEORGE HENRY FOX said this case appeared to be one of the macular forms of atrophy of the skin which often appeared with slight elevation of the skin, and a pinkish congested color, the skin becoming so atrophied and thin in time that you could press your finger right through it into the subcutaneous tissue.

Dr. PAROUNAGIAN, in closing the discussion, said that he had seen the patient for the first time two years ago, and macular atrophy of the skin was his diagnosis. Two weeks prior to the presentation she had come under his observation again. In the meantime she had consulted Dr. Bulkley who had her under treatment for about three months and whose diagnosis was myoma cutis. Dr. Parounagian observed carefully and believed that the lesions began as elevations of the normal skin, became erythematous and atrophied. During the past two years he thought the lesions had increased in numbers and the two most recent lesions were on the eyelid and eyebrow.

LICHEN PLANUS UNIVERSALIS. Presented by Dr. WEISS.

The patient was a male adult, 34 years old and married. He showed a generalized eruption all over the body, which allegedly was present for three months.

It started around the waist and from there spread over the body. At the time of presentation almost the whole skin could be seen studded with lichen planus lesions, which were especially abundant on both surfaces of the upper and lower extremities. Here they assumed an almost conglomerate form. There was a decided tendency present in the majority of the lesions to assume a ringed formation, due to a depression caused by atrophy in the centre. This latter phenomenon was probably due to contiguous lesions which had formed around the border of the old ones. There was also present an annular lichen planus in the buccal cavity and on the glans penis.

As to treatment, Dr. Weiss used Unna's salve and arsenic but had had very little effect from their use. This case he proposed to treat by the old Vienna school fashion, by using the ungt. Wilkinsonii and causing a general desquamation. These general eruptions were very annoying and itched a great deal and must be dealt with energetically to avoid impairment of the general health.

DISCUSSION.

DR. GEORGE HENRY FOX said that perhaps lichen planus had the distinction of all skin diseases of being most resistant to any local plan of treatment. In many of these cases, such as the one presented that evening, the lesions were more apt to heal spontaneously than in cases where the eruption was limited to the arms or legs. In this patient, if he were to join a base-ball club, exercise and perspire every day and take a cold bath every morning with a good rub down, it would do him more good than any local treatment.

DR. McMURTRY said the case of lichen planus which he presented to the Society some time ago had been receiving protoiodide of mercury, one-quarter of a grain, three times a day, but without noticeable improvement. He tried Unna's salve containing bi-chloride of mercury locally, without effect. He advocated hot starch baths at night. These relieved the itching considerably.

MOLLUSCUM CONTAGIOSUM. Presented by DR. PAROUNAGIAN.

The patient was a boy, 12 years old who presented several lesions on the back, between the scapulæ. He was presented because of the uncommon location.

MOLLUSCUM CONTAGIOSUM. Presented by DR. PAROUNAGIAN.

The patient was a female child, 2½ years old, who showed three molluscum lesions, one under the chin, one on the shoulder and another on the elbow. They were pedunculated in type.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of
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DERMATOLOGISCHE WOCHENSCHRIFT.

(April 4, 1914, lviii, No. 14.)

Abstracted by CHAS. GOOSMANN, M.D.

ULERYTHEMA ACNEIFORME. OSCAR GANS, p. 393.

A very complete clinical and histologic report is given of a case classified as ulerythema acneiforme (Unna). To differentiate this condition from acne vulgaris on the one hand and lupus erythematosus on the other, the author has compiled a very complete table of their histologic characteristics, and feels justified in classifying ulerythema acneiforme as an unusual form of ulerythema centrifugum (lupus erythematosus).

THE TREATMENT OF SCABIES WITH COLLOIDAL SULPHUR. KARL HEDEN, p. 404.

One treatment with Heden's colloidal sulphur ointment is often sufficient to cure scabies, as compared with 4 or 5 days of ordinary treatment. Nine and a half per cent. of Heden's series of 115 cases, however, needed three applications, and one case had six applications before being cured.

(*Ibidem*, April 11, 1914, lviii, No. 15.)

CREEPING ERUPTION. THOMAS H. CATES, p. 417.

Cates reports a case seen in Philadelphia. Three parasites were removed from the skin of the forearm, using the nails of the thumb and forefinger. The author believes a cutting instrument should not be used, as the bleeding causes the parasite to be lost. The best instrument is probably an eye-spatula, such as is used to remove foreign bodies from the cornea.

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CONTRALUESIN AND ITS MERCURY IN PHYSIOLOGIC AND CLINICAL RELATIONS. ED. RICHTER, p. 421.

After a discussion of colloid chemistry, the author takes up some clinical results from his contraluesin. After 6 to 12 months' treatment, syphilis is thoroughly under control, any recrudescences yielding more and more easily, until they no longer appear. Encapsulated groups of spirochætæ are destroyed with difficulty by any method of treatment, but these isolated organisms do not give a positive Wassermann reaction.

Six case reports are given, including œsophageal stricture, endocarditis, laryngeal ulcer, nephritis and cerebral syphilis, all with good results.

Grandin is said to consider contraluesin the foremost remedy for syphilis of the nervous system. In one case of total unilateral deafness of 8 years' duration, unyielding to mercury and salvarsan injections, Grandin obtained perfect function with contraluesin in less than a year, although the case had previously been diagnosed as complete degeneration of the nerve.

(*Ibidem*, April 18, 1914.)

ON CONGENITAL CYSTS AND DUCTS IN THE RAPHE PENIS.

(*Ibidem*, May 2, 1914, lviii, No. 18.)

A CASE OF TROPHONEUROTIC GANGRÆNE FOLLOWING SHOT-WOUND. O. LESZLENYI, p. 505.

Two years after a shot-wound of the left arm, Leszlenyi's patient, a young man, developed several gangrænous ulcers below the scar of the original injury. On the dorsum of the opposite (right) hand a similar lesion developed. Two fragments of steel (remains of a bullet) were removed from the large ulcer of the left arm, after which healing rapidly occurred, even on the opposite hand.

In less than a month the former bullet site ulcerated again, but healed gradually under local treatment.

Leszlenyi believes the ulcers on the left arm were caused by irritation of some cutaneous branches of the radial nerve, and that the lesion on the opposite hand was analogous to what occurs in sympathetic ophthalmia.

SOME EXPERIMENTS IN THE PRODUCTION OF A NEUROPATHIC FORM OF MERCURY. K. RUHL, p. 510.

It is well known that mercury in its commonly used forms is ineffective in some syphilitic affections of the nervous system, and may even do harm. The investigations of Serona have shown that cholesterin exercises an important biologic function. 1. In the body lecithin is always associated with cholesterin esters, particularly the oleate. 2. The lecithin content of various tissues varies with the cholesterin content. 3. Cholesterin esters protect the lecithin by forming a colloidal coating around it analogous to the protection of mucous membranes by mucin. 4. Free cholesterin is either reconverted into the ester, or excreted from the body, as it does not functionate in a free state. 5. Lipoids (lecithin) and cholesterin esters act as a vehicle for enzymes and assist their penetration into the cells. 6. Cholesterin esters can also act as a vehicle for introducing medicaments to the tissues.

To utilize the above-mentioned observations, Serona has prepared, among others, a double-oleate of mercury and cholesterin, to which the name "Mercuriocololo" is given. One cc. of this contains 0.01 metallic mercury. Sanmartino and others have used this new treatment, and Ruhl believes it to be worthy of trial in syphilis of the nervous system.

(*Ibidem*, May 9, 1914, lviii, No. 19.)

SARCOID TUMORS OF THE SKIN. RICHARD L. SUTTON, p. 537.

Sutton reviews the literature of sarcoid tumors, and then gives a clinical and histologic report of cases, including 3 of the Boeck type, 1 of subcutaneous sarcoid, 1 Spiegler-Fendt type, and a case of chronic erythema nodosum. Excellent photomicrographs increase the value of the descriptions.

The following classification is suggested: Sarcoid tumors of the skin can be placed in two groups, neither of which has any relation to tuberculosis. The first group includes the three clinical varieties of Boeck's sarcoid. In the second group is the Spiegler-Fendt type, and here are included also all or nearly all of the cases of sarcoma of the skin that are permanently cured by arsenic.

Subcutaneous tuberculides of the Darier-Roussy type can be placed in the second division of White's classification; that is, those diseases in which the tubercle bacillus is not found, microscopically, but animal inoculation is sometimes positive.

It is extremely probable that erythema nodosum and the diffuse form of erythema induratum have occasionally been confused, although the latter is both structurally and clinically tuberculous.

HUTCHINSON'S TEETH AS AN EXPRESSION OF THYROID INSUFFICIENCY. ARNOLD JOSEFSON, p. 545.

Hutchinson's teeth may occur in the absence of syphilis, and be due to disturbance of internal secretion, particularly of the thyroid. Josefson suggests that even in hereditary syphilis the tooth anomalies may be due to disturbances of this sort.

Typical Hutchinson's teeth are reported in a cretin, in whom syphilis could be definitely ruled out.

(*Ibidem*, May 16, 1914, lviii, No. 20.)

ACUTE DISSEMINATED SKIN TUBERCULOSIS IN CHILDREN. E. BRUUSGAARD, p. 561.

The acute exanthems, particularly measles and scarlet fever, can stir up a previously-latent tuberculosis. But erythema multiforme, and particularly erythema nodosum, can do the same. Cases occur in which tuberculous meningitis develops directly after an erythema nodosum. This cannot be taken as proof that the latter is due to the tubercle bacillus, although it is possible to have true tuberculosis that simulates erythema nodosum.

Bruusgaard reports the case of a four-year-old girl, whose father had phthisis. The child had eruptions on the forearms, legs and gluteal regions that looked like nodular tuberculides. One area had a typical erythema induratum lesion, and transitional forms could be demonstrated. Numerous small verrucose lesions were also present. They resembled ordinary warts, and did not show any characteristic bluish-red areola. Neither was there much infiltration. Both microscopically and by animal inoculation the different types were shown to be due to the tubercle bacillus. The author made a diagnosis of multiple colliquative skin tuberculosis with disseminated verrucose skin tuberculosis, all symptoms of a generalized infection. The patient died in five months from tuberculous meningitis. A histologic study of this case and a discussion of the literature closes the article.

A CASE OF AGONAL EXANTHEM. ALFRED KLEIN, p. 569.

A patient, seven hours before his death from erysipelas and pneumonia, developed white, very slightly elevated lesions in large number. Klein considers it

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a case of urticaria, due to the pneumonia toxin, assisted by the loss of vasomotor tone.

(*Ibidem*, May 23, 1914, lviii, No. 21.)

LICHEN STRIATUS. G. FANTL, p. 593.

Fantl reports the development, in a twenty-six-year-old woman, of two parallel, brownish-red, linear lesions, which began at the inner side of the knee, and in several days had extended to the body. On the upper part of the thigh the lines diverged, one to the symphysis, the other to the anal region. Between the parallel lesions was a strip of normal skin. Considerable itching was associated.

The various theories advanced to explain these linear lesions (Voigt's lines, segment zones, etc.), are discussed.

THE NEWER METHODS OF TREATING LUPUS. W. SCHÖNFELD, p. 599.

The local use of copper salts (particularly "lekutyl" and other preparations of Bayer & Co.) and the intravenous use of gold-potassium cyanate and of salvarsan were tried by Schönfeld. The copper treatment was less valuable than the pyrogallic acid ointment, though both act purely as caustics. The copper ointment, when of sufficient strength, caused great pain. The effects produced by injections of gold cyanate and of salvarsan probably depended, in either case, upon the sensitizing of the tuberculous tissue, so that it reacted better to tuberculin. While all of these methods may, in isolated instances, prove of value, in general they are no better, and sometimes even worse than the older methods of treatment. Specific remedies have not yet been found, but it is possible that a true chemotherapy may ultimately be found along these lines.

The abundant literature on these newer methods of treatment is discussed, and the author's results reported in detailed case histories.

(*Ibidem*, May 30, 1914, lviii, No. 22.)

SOME REMARKS ON A CASE OF KELOID OF THE NECK. MAX TIECHE, p. 617.

Tieche reports a case of dermatitis papillaris capillitii with distinct keloid growth, not only on the neck, but also on some old vaccination sites.

THE ÆTIOLOGY, PROPHYLAXIS AND TREATMENT OF LEPROSY. J. D. KAYSER, p. 621.

In a comprehensive paper Kayser discusses first the historical side of leprosy. The well-known fact that this scourge, after persisting unchanged during the Middle Ages, finally, in the seventeenth century, abated, is not due, according to Kayser, to the strict isolation of the numerous leprosaries; on the contrary, the latter, because of their crowded and unhygienic state, were rather capable of acting as hot-beds for the further propagation of the virus. The change for the better was rather due to improved hygienic and economic conditions, and increased personal cleanliness.

While Hansen's bacillus is probably the causative organism, it must be remembered that positive proof is still lacking. Clegg, Duval and others claim to have cultivated the bacillus, but Frazer and Fletcher conclude, from their experiments, that cultures of the lepra bacillus have not yet been produced. Working with rat leprosy, Marchoux and Sorel showed that contamination of the virus before inoculating healthy rats produced much more severe forms of the disease than when the bacilli alone were used. They believe, therefore, that persons living in leprosy countries may harbor the bacilli without showing any symptoms, which only develop after some secondary infection.

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Hereditary transmission, if it occurs at all, must be very rare, but Kayser has found children of leprosy parents relatively often affected, even when due care has been taken to avoid infection. This is attributed, however, to a lowered resistance.

Direct contagion is improbable, or at least quite rare. Danielssen, for instance, inoculated himself four times with leprosy material with negative results. Twenty volunteers were also inoculated. Profeta and nine volunteers have repeated the experiment, without harm. The case of Arning, in the Sandwich Islands, showed symptoms several months after inoculation, but the subject was a native, with family infection. In Batavia, Kayser saw 45 married lepers, but no transmission to the spouse. Sand, in 478 leprosy families, found only 3% who seemed to have been infected by husband or wife. He came to the conclusion that some factor other than direct contact was necessary, and that possibly the virus had a necessary stage of its life cycle outside the body.

Engel Bey, of Egypt, likens the contagiousness of leprosy to that of tuberculosis, while Thiroux compares it to surgical tuberculosis. Hansen believes that unknown circumstances are needed to activate the disease, and Kayser considers unhygienic and unclean surroundings, poor food and overcrowding important factors. This explains the prevalence of leprosy among the native East Indians, the Pariahs of India, and the Fellahs of Egypt. This also explains why the lower social strata yield the most victims.

Prophylaxis must follow along the lines laid down above. Good food and cleanliness, and forbidding the well to use clothing that has been worn by an infected person, are urged. The latter should sleep alone, have his own eating utensils, and be required to keep any ulcers cleanly bandaged. Isolation measures of a stricter sort may be necessary where carelessness is detected. (*To be continued.*)

(*Ibidem*, June 6, 1914, lviii, No. 23.)

HERPES URETHRAE AS THE CAUSE OF NON-SPECIFIC URETHRITIS.

HERMAN G. KLOTZ, p. 649.

Klotz believes that many cases of acute urethritis with negative bacterial findings are due to herpes of the urethra. Endoscopic examination has seemed to confirm this, and the subjective symptoms, as well as the swollen and tender inguinal glands, are not inconsistent with this belief.

There is a tendency to early healing under non-irritating treatment. Klotz advises a 10% suspension of airol in equal parts of glycerin and water; later, bismuth subnitrate or dermatol suspended with mucilage, or a solution containing boric acid, lead acetate and zinc sulphate, $\frac{1}{4}$ of 1%.

THE ETIOLOGY, PROPHYLAXIS AND TREATMENT OF LEPROSY.

D. KAYSER, p. 651. (*Concluded.*)

Leprosy is not always incurable, although there is no specific treatment. Good food, fresh air, lots of walking, sea voyages, or emigration to a leprosy-free country are often very beneficial, although it is hard to say whether the effect is due to the climatic change, or to the avoidance of re-infection. Children of leprosy parentage should always be sent away from an infected country. The depression, consequent on knowing the nature of their illness, must be combated by holding out the possibilities of treatment.

Daily warm baths are of value. Unna's methods of local treatment with pyrogallol, etc., are also useful, and when combined with the internal use of chaulmoogra oil give the best results obtainable in this disease. The chaulmoogra oil must be taken in large doses, up to 200 drops daily, and this is often poorly borne. Gelodurat capsules may be used to administer the oil. Anti-leprol, a

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purified form of chaulmoogra oil, is supposed to be less offensive, but Kayser could see no difference. Brocq and Pomaret use 2 cc. subcutaneous injections of a mixture containing 70 parts of the oil and 30 parts of eucalyptol. The author has not had sufficient experience with this to form an opinion. Iodide preparations have given him no results.

Nastin has been valueless in his cases, and is subjected to strong criticism. A sketch of the methods of preparing this substance, and of the theory of its action, is given, as well as a complete bibliography of the publications regarding it.

ZEITSCHRIFT FÜR BEKÄMPFUNG DER GESCHLECHTSKRANKHEITEN.

(June, 1914, xv, No. 6.)

Abstracted by CHAS. GOOSMAN, M.D.

ON THE MORTALITY DUE TO SYPHILIS. LEREDDE, p. 218.

The dangerous sequelæ of syphilis are not as widely appreciated as they should be, even by syphilographers. Hallopeau, for instance, believes syphilis to have little influence on mortality; and Renault has taken the same view. Specialists in other departments of medicine frequently overlook the luetic origin of retinitis, iritis, internal ear affections and diseases of the nervous system. Liver cirrhosis, chronic nephritis, and many vascular diseases are also of the same origin.

Blaschko was the first to study the effect of syphilis on mortality. Basing his statement on insurance statistics, he considered four or five years as the average curtailment of life from this cause. A large number of other writers are quoted by Leredde to show the great frequency of positive Wassermann reaction in diverse diseases. Whether arteriosclerosis is of syphilitic origin is not yet proven, although atheroma and aneurism are syphilitic in 50% of the cases. Even cancer of the tongue, in a large percentage of cases, is indirectly due to syphilis.

The author believes that in Paris, in 1910, over 4,000 deaths were due to syphilis, while the whole of France pays an annual toll of 25,000 lives to an infection that is second only to tuberculosis in its ravages, more terrible than cancer, and more to be feared than alcohol.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(Nov. 25, 1913, lx, No. 47.)

Abstracted by ARTHUR WM. STILLIANS, M.D.

THE REACTION OF THE SKIN TO DIPHTHERIA TOXIN AS A TEST PRELIMINARY TO PROPHYLACTIC INJECTION OF ANTI- TOXIN. B. SCHICK, p. 2608.

The researches of Loos, Karasawa and Schick have shown that children susceptible to diphtheria possess in their blood serum no antibodies against the toxin. Others have confirmed this. Wassermann, Fischl and von Wunschheim and many others have, on the other hand, shown that the blood serum of many who never have had diphtheria contains protective properties against it. More than 80% of the new-born, 90% of adults, and from 50 to 60% of all children are thus protected by nature.

In view of these facts it is clear that not all children exposed should be given

antitoxin as a prophylactic. To determine those already immune, the author proposes the intra-dermal injection of $\frac{1}{50}$ the amount of diphtheria toxin required to kill a 250 gram guinea pig. Within one or at most two days the reaction has taken place, resembling closely an intracutaneous tuberculin reaction, but lighter in color. A negative result indicates always immunity to diphtheria. A positive reaction does not always show lack of protection, but because of its indefiniteness should be so interpreted.

By the use of this simple preliminary test, many children can be spared the needless danger of anaphylaxis, and waste of antitoxin can be avoided. As the immune bodies can vary from time to time, the children should be re-examined in four weeks, if still exposed.

THE THERAPEUTIC USE OF THE BLOOD SERUM OF SCARLET FEVER CONVALESCENTS. R. KOCH, p. 2611.

Weissbecker, in 1896, first tried to use serum of convalescents in the treatment of the infectious diseases, without definite results, however, because of his small dosage. Reiss and Jungmann, in 1912, reported 12 cases of severe scarlet fever treated in this way, but with larger doses. Koch now adds from the same clinic (the medical clinic of the City Hospital of Frankfort on the Main) 28 cases to the list. In from 6 to 22 hours after the injection the temperature fell to normal. In only one case did it again rise, and a second injection in this case gave a prompt and lasting result. Only one case of the series failed to respond to the treatment, and this one was already dying when the injection was made. In no case in this series were there clinical symptoms of scarlatinal nephritis, and only in one were red and white blood cells and casts found in the urine; while in the 263 cases treated during the same time by the usual methods, 17 had hæmorrhagic nephritis, as did 2 of the 12 cases treated with normal human serum. Not only were malignant cases saved by the treatment, but complicated cases were also favorably influenced as to the scarlet fever itself; but the complications were not affected.

DIET AND DIETETIC TREATMENT FROM THE STANDPOINT OF THE VITAMIN THEORY. C. FUNK, p. 2614.

In the study of beriberi, scurvy and allied diseases it has been shown that our foodstuffs contain, besides proteids, carbohydrates, fats, lipoids, purins and salts, other important but hitherto unknown substances, the vitamins. They are very complex crystalline nitrogenous bodies that are present in the various foodstuffs and are necessary to life in very small amounts; but are pharmacologically indifferent, and can be consumed in any amount without harm. The author calls the diseases due to lack of these substances the avitaminoses, and groups their symptoms in five syndromes:

1. Nerve degeneration with paralyses and contractures.
2. The cardiac syndrome with dilatation of the right heart, dyspnœa, cyanosis and oliguria.
3. Anasarca, hydropericardium, hydrothorax and ascites. These three belong to beriberi.
4. The scurvy syndrome, swollen gums, bone lesions and multiple hæmorrhages in the skin and under the periosteum.
5. The pellagrous syndrome, stomatitis and gastrointestinal, nervous and skin symptoms.

These groups are often mixed, producing confusing combinations, with characteristics of all three diseases. Besides the three typical avitaminoses, it is very probable that rickets, osteomalacia and spasmophilia belong to the same group of diseases, though their connection is not yet clear.

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In view of these facts, a one-sided diet in long-continued infections, as typhoid, should be carefully avoided. Not only anorexia, gastrointestinal disturbances, but even nerve degeneration, may be due to faulty diet instead of to the infection. Anorexia, especially in children, chlorotic girls, pregnant and nursing women, and in convalescents, may be due to lack of the vitamins, as may also more severe gastrointestinal disorders evidenced by nausea, vomiting, diarrhoea and meteorism. Too often in these cases a strict diet is followed, which, because of its lack of vitamins, aggravates the trouble.

The most dangerous of foodstuffs are white flour, polished rice, cornmeal and the sterilized milk preparations for children. Even whole wheat and whole rye flours are not to be relied upon without fresh vegetables. Potato meal is the only meal sufficient in itself. The substances richest in vitamins are yeast, fresh juicy vegetables and fruits, raw milk, egg yolk, and meats, especially heart and brain.

Vitamins are destroyed by removal of the outer layers of the grains, especially rice, maize, wheat and rye (beriberi vitamin). Cooking, even sterilizing or condensing milk at less than boiling heat, and the cooking of fresh vegetables more than a half hour, are very harmful. The author warns especially against the use of pressure cookers which raise the temperature over 100° C., a method which is increasingly popular in military cooking and in asylum and hospital kitchens.

In regard to pellagra, the author says that it to-day stands where beriberi stood ten years ago. In spite of the clear connection between pellagra and the cultivation of maize, the infectious and toxic theories still have a large following. "We must keep in mind the naked fact that there is no endemic pellagra outside the corn belt." On the other hand, the consumption of corn is greatest in northern Italy, Roumania and the southern states of North America, exactly where pellagra is most severe. It is noteworthy that while in Italy, Egypt, etc., chronic cases predominate and the mortality is only 4%, in the United States pellagra is much more acute and severe, with a mortality of 20 to 25%. This can be explained by the difference in milling, which is crude in Italy and Egypt; but in the United States is very thorough, robbing the corn of its most valuable parts. What little is left of the vitamins is still further decreased by cooking. The scurvy vitamins have been destroyed in the first place by the thorough drying.

The author is convinced that the solution of the pellagra problem will be found in this direction, and hopes soon to shed further light on the question by reporting on experiments now under way.

TWO CASES OF REINFECTION OF PATIENTS TREATED WITH THE SALVARSAN-MERCURY TREATMENT, AND A TABULATION OF OUR RESULTS WITH THE COMBINED TREATMENT. H. BOAS, p. 2620.

Two especially typical cases are added to the series of reinfections with syphilis after the combined treatment. The first was an early primary, with negative Wassermann, the diagnosis proved by the demonstration of *spirochæta pallida*. He received 0.6 gram salvarsan intramuscularly and 0.4 gram intravenously, followed by 50 injections of 3.0 grams each. Nine months after the end of the treatment, during which time he had remained free from clinical or serological symptoms, he was infected with gonorrhoea and just three weeks later a small ulcer appeared on the frænum (the first infection began in two chancres on the cutis penis), and in ten days became a typical chancre with numerous *spirochæta*. Not until 8 weeks after infection did the positive Wassermann appear, and in a week and a half after that, the roseola appeared.

The second case was very similar. The first chancre was in the coronary sulcus, and with the Wassermann reaction still negative, 0.6 gram of salvarsan was given intramuscularly and 0.4 gram intravenously. Then ten injections of 0.05

gram of calomel were given. Exposed to infection again about six months after the end of treatment, he developed, in three and a half weeks, two chancres on the penile skin, in which spirochætæ were found. The left inguinal glands were enlarged; but further symptoms were not awaited, as the patient demanded treatment.

The author presents a series of tables showing the value of the combined treatment compared to the treatment with mercury alone, indicating a far more lasting effect from the combined treatment.

In his series of 500 patients only one accident occurred from salvarsan, a gluteal abscess. On the other hand, one case died with a mercurial dermatitis. One neuro-recidive after salvarsan, a syphilitic meningitis, yielded promptly to mercury.

(*Ibidem*, Dec. 9, 1913, lx, No. 49.)

THE GOLD REACTION IN THE CEREBRO-SPINAL FLUID. H. EICKE, p. 2713.

The author urges the importance of spinal fluid examinations in lues, even early in its course, and holds that the Lange test is valuable because it gives an "easily read specific difference between luetic and nonluetic meningitis." He gives the technique in detail, emphasizing those points he has found important.

Of 136 cases of secondary syphilis, most of whom complained of headache, 60 gave the reaction of early luetic meningitis, a slight change of color in the dilutions 1_{40} to 1_{80} . A slight lymphocytosis occurred also in these cases. Four of these secondary cases gave very strong reactions, supported by strongly positive Wassermann reactions in the fluid, and strong Nonne and lymphocytosis, although clinically they were not suspected of meningeal involvement.

The reaction characteristic of general paresis was obtained in 50 of the 52 cases examined, accompanied by Nonne, Wassermann and pleocytosis. The two cases in which all these tests were negative had been diagnosed on purely psychic changes. The author believes that the gold reaction may prove of especial value in differentiating beginning paresis from simple neurasthenia in a luetic subject.

Tabetics and cases of cerebro-spinal lues give reactions less marked than those of paresis, but still very strong. Of 24 cases of tabes, 22 gave positive reactions.

Admixtures of blood or serum gave a characteristic reaction in the high dilutions, 1_{320} to 1_{1280} , which can always be easily distinguished from the luetic reactions even when the contaminating serum gives a positive Wassermann reaction.

A beginning tuberculous meningitis may give a reaction much like that of lues, but in higher dilutions and accompanied by a much stronger Nonne than lues would give. Twenty-six cases of tuberculous meningitis, 4 of purulent meningitis and one of brain abscess all gave reactions in the higher dilutions, easily differentiated from lues.

REMOVAL OF TATOOING. K. STERN, p. 2731.

The title of this article is a misnomer, for the author proposes not to remove the tatoo marks, but to cover them by a second tatooing with a suspension of chalk and zinc oxide in equal parts of milk and alcohol. He claims with this method to have obtained very satisfactory results. The work must, of course, be done aseptically, and too frequent repetitions are warned against as liable to cause scarring. This author experienced this in one of his cases; but the scar was so much less noticeable than the tatoo mark that the patient was satisfied with the result.

A SIMPLE ARTIFICIAL NOSE. ZINSSER, p. 2734.

The method of Henning, of making artificial noses of a soft elastic mass, is enthusiastically commended. But as Henning holds the formula for his mass a strict secret, making it expensive for poor patients, the author uses a mass made

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of gelatine, colored as desired with zinc oxide, cinnabar and ultramarine. A plaster mold is made of a nose of the shape desired, and the gelatine mass cast in this mold, care being taken to provide for the nasal openings. This cast is carefully removed and stuck onto the face. Such a nose can be worn at night, can be cleansed like a natural one, and is elastic enough to participate in the facial movements. One of these casts can be worn several days, and then is replaced by another made by the patient himself at very slight expense.

(*Ibidem*, Dec. 16, 1913, lx, No. 50.)

CAN CONSTITUTIONAL SYPHILIS BE DIAGNOSED BY EXAMINATION OF THE EAR? O. BECK, p. 2778.

In the examination of cases of secondary syphilis preliminary to salvarsan treatment, Beck found in 80% of these cases, in spite of normal hearing, a distinct shortening of the period of bone conduction. His findings were confirmed by Professor Urbanschitsch, in whose clinic the author assists. This sign has also been found in the presence of normal hearing in cases of brain tumor and hydrocephalus, as demonstrated by Ruttin and Wanner. The latter also supports the claim of the author that, in the absence of other explanatory lesion, this sign warrants a suspicion of syphilis. In all these conditions, as well as in epilepsy and tetany, it is probably due to increased intracranial pressure, as shown by its disappearance for about two days after a lumbar puncture, then gradually reappearing.

In primary syphilis this sign is seldom found, but appears usually with the secondary symptoms, sometimes, however, preceding both symptoms and Wassermann reaction. To the same increase of intracranial pressure the author ascribes the dizziness and disturbances of equilibrium noted by himself and the increase of reflexes noted by Finger. He is convinced that an apparently well person, who complains of no disturbance of hearing and yet gives this sign, can be suspected of systemic syphilis.

THE SERUM DIAGNOSIS OF MALIGNANT TUMORS. C. FRIED, p. 2782.

The author has tested the claims of von Dungern in regard to the serum diagnosis of carcinoma, using his first five antigens, but not the latest, that made from the red cells of paralytics. In spite of the utmost care in technique he found that the low percentage of positive reactions in carcinoma and the high percentage in non-carcinomatous cases make the tests of no practical value.

He also tried out the Abderhalden dialyzing method on carcinoma and sarcoma, and obtained 77.78% positives in known cases of malignancy and only 22.22% positives in known non-malignant cases. This apparently favorable finding is, however, impaired in value by the fact that the sera from the malignant cases reacted also with other substrates, as thyroid, colloid goitre, muscle, placenta and even with calves' muscle. This fact and the very difficult technique must be reckoned against the practical value of the test.

METHODS OF DEMONSTRATING BUDDING PROCESS IN SPIROCHÆTÆ. MEIROWSKY, p. 2783.

An addition to the technique of vital staining and the staining of fixed specimens showing the processes described in Nos. 34 and 37 of this same volume of the *Muenchener medizinische Wochenschrift*.

(*Ibidem*, Dec. 23, 1913, lx, No. 51.)

TREATMENT OF FORMALIN ECZEMA. O. THILO, p. 2841.

After working in two and three per cent. solutions of formalin for 8 years without any trouble, the author was suddenly attacked by a severe dermatitis of

the hands, which yielded to rest and the usual treatment in about two months. He then returned to the practice of medicine; but in spite of the greatest care to avoid all irritants, suffered from recurrences.

In desperation, he tried an old remedy for "rough hands" and "hardening of the skin." Every evening before retiring he rubbed the "raw cracking areas" and the vesicular areas for a few seconds with the finest sandpaper. Over the weeping areas he then placed a single layer of gauze and put on thin cotton gloves. After a few days of this treatment the skin seemed to become more resistant and he was soon able to return to work, and can now do the metal and leather work in orthopaedic practice without difficulty.

A SIMPLE ARTIFICIAL NOSE. HERRENKNECHT, p. 2842.

In reference to the article of Zinsser by this title in No. 49 of this volume of the *Muenchener medizinische Wochenschrift*, the author states that Cathcart of Edinburgh described, in 1885-1886, the same process and the author has used it for over 20 years with great satisfaction. He gives some details of technique which have been helpful.

(*Ibidem*, Mar. 10, 1914, lxi, No. 10.)

THE RESULTS OF THE SALVARSAN TREATMENT IN THE MARINE HOSPITAL AT WIK UP TO THE PRESENT TIME. GENNERICH, p. 514.

The author divides his experience into three periods, according to progress in the methods of treatment. In the first of these, from July, 1910, to March, 1911, 39 primary cases were given 2 intramuscular injections of 0.5 or 0.6 gram each and 5 to 8 calomel injections of 0.05 to 0.07 gram, or, instead, 2 or 3 intravenous injections of salvarsan, 2 or 3 intramuscular injections and 8 to 12 calomel injections. Of these cases only 5 had recurrences, all within a year of the end of treatment. Five cases also were reinfectd. Of the 29 cases apparently cured, 12 were given a provocative injection after a year and 4 received a second, two years after the end of treatment. These were all negative, as were the 12 lumbar punctures. The author calls especial attention to the value of lumbar puncture in these aborted cases, as 90% of the cases in which the abortive treatment fails, show spinal fluid changes. He also believes that in these cases a single provocative injection is sufficient, for the second has never in his experience reversed the verdict of the first.

Of 38 early secondary cases treated in this period, 52% remained clear from one and a half to three years. Of 8 late secondary cases, 6 recurred, only two remaining free for over three years.

Of the 9 tertiary cases in this period, 5 remained clear. Of 20 latent cases, 12 remained clear.

In the second period, from March, 1911, to March, 1912, intravenous injections only were used with the calomel injections; 89% of the 73 primary cases remained free from symptoms, and 7 of these were reinfectd.

The early secondary cases of this period gave 67% (of 77 cases) remaining clinically and serologically free. In this group occurred a paralysis of the facial nerve, the only cranial nerve involvement in the author's whole material. In this group also a "very well treated case" developed a neurorécidive 33 days after the seventh salvarsan injection.

Of the 17 late secondary cases of this period, 12 have remained clear, which is 100% of the well-treated cases. By this the author means 2 to 4 series each of 6 salvarsan injections and 15 of calomel. Of 12 tertiary only one recurred, because the second series was postponed too long. Among the 37 latent cases

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were 5 in which, in spite of from 5 to 7 series of treatments, the spinal fluid still showed signs of meningitis. Of the other latent cases, 28 have remained clear.

In the third period, March, 1912, to March, 1913, the more frequent use of examinations of the spinal fluid can be considered an advance. In 1,300 spinal punctures for examination and endolumbar therapy, there have been no bad effects from the puncture. Of the second novelty of this period, the author does not think as highly, for, after beginning the use of neosalvarsan, he saw the first skin recurrences since the early salvarsan era, in which only 2 or 3 small injections were given. He considers neosalvarsan distinctly less active than the old salvarsan.

The 92 primary cases of this period received 15 calomel injections and 6 to 8 salvarsan injections. If the treatment had been begun in the late primary stage, especially if the dosage had been less than 0.4 for a man or 0.3 gm. for a woman, a supplementary series of 2 or 3 injections was given 3 weeks later. Of the 92 cases, 89 have remained clear, a percentage of 97. All these have been watched for a year or more except one, which 3 months after the end of treatment was reinfected; 37 of these aborted cases were subjected to lumbar puncture during or before the treatment, and 45 of them since the end of treatment, all with negative result.

Of 70 early secondary cases treated with about 5 gm. salvarsan and 15 calomel injections, 66 remained free of symptoms. Three of the recurring cases the author holds as classical examples of the weaker action of neosalvarsan. In spite of 15 injections of calomel and 5 to 6 each of salvarsan and neosalvarsan, one of these cases had a neurorécidive in 2 months and the other two, recurrent skin lesions 4 months later. The fourth had a reversal of the Wassermann to positive on account of an interval of 3 months between the first and second series of injections.

A like reason is given for the single recurrence in the 11 old secondary cases of this period. Instead of returning in 9 weeks for his second series, he came back in 5 months with a positive serum reaction. Four of this series of cases had spinal fluid changes, which cleared up under treatment. Eight tertiary cases given the same treatment have all remained clear. Latent cases also received the intermittent treatment with intervals of from 7 to 9 weeks between series. Of 43 of these, 42 remained free of all symptoms for over a year. One, who took only two series of treatments, returned in a year with a positive serum reaction. Gennerich considers it a technical mistake to give such a case less than three series of injections.

Twenty-four pregnant women were treated without a single mishap, and all had healthy children, irrespective of whether their infection was recent or of long standing.

He holds that it is entirely safe to permit patients to marry after they have been free from clinical and serological symptoms for two years and have been negative after a provocative injection.

The very fact that recurrences are so frequent and prompt after insufficient salvarsan treatment shows how effectually the drug limits the generalization of the virus of syphilis.

His 17 cases of reinfection, the negative result of two provocative injections, and the negative findings in the spinal fluid he regards as the best proofs of the cure of syphilis.

Of 1,200 cases treated with salvarsan, two died, both after intensive treatment with mercury and three doses of salvarsan. One died of embolus, the other with a dermatitis, enteritis and ulcerative stomatitis. In none of his cases did he see a disturbance of sight or hearing after salvarsan treatment.

With his latest technique only 1% of the cases show a febrile or other reaction.

He holds that early cases should be given the full abortive treatment (as given under early cases of the third period) or should receive no salvarsan. Older cases

can safely be given an intermittent treatment at 8 or 9 week intervals. All resistant cases of meningeal syphilis should be given endo-lumbar injections of salvarsanized serum or of neosalvarsan. From 67 such injections he has seen no untoward effect and is well pleased with the therapeutic result.

(In view of the expense, the difficulty of controlling cases not under military discipline and the danger of neurorécidives in all except the most thoroughly treated cases, the argument is against rather than for salvarsan, in our opinion.—Reviewer.)

THE WAY IN WHICH SALVARSAN AND MERCURY ACT ON SYPHILIS. E. SCHREIBER, p. 522.

The author supports the theory of Ehrlich that salvarsan acts directly on the spirochætæ, by citing the rapid disappearance of the organisms from the lesions, the fact that more salvarsan is found in luetic lesions than in normal tissues (due, he says, to the anchoring of salvarsan by the spirochætæ), and the fact that salvarsan and salvarsanized blood destroy the power of spirochætæ to infect animals, although they do not destroy their motility. To kill them, organic agents, possibly the red blood cells, seem necessary. Neosalvarsan, however, kills them directly in a 1.5% solution acting for 40 minutes.

The theory that salvarsan acts indirectly by causing leucocytosis he rejects because in the very cases in which salvarsan is most active there is often no leucocytosis. The theory that it acts as a roborant and alterative he opposes by the fact that it is entirely different from arsenic in its toxicology and pharmacology. That its action is not by an increase of antibodies is shown by experiments of Salmon, who demonstrated that the serum of fowls recovering spontaneously from chicken spirillosis kills the spirillæ, while that of fowls recovering by salvarsan treatment has no such action. Other experiments, however, make it probable that salvarsan treatment does result in the presence in the blood serum of some body with anti-spirochætal properties. The author believes, on the other hand, that all evidence goes to show that mercury acts only by raising the powers of resistance of the patient. As we have just begun search for an organic mercury combination more active than the inorganic salts, we have reason to hope that the great work of Ehrlich in producing salvarsan will be followed by still other triumphs in the war against syphilis. Our present combined treatment is surely a very sensible one—salvarsan to kill the spirochætæ that are within its reach and mercury to increase bodily resistance to the development of those foci that escape the salvarsan treatment.

THREE YEARS OF SALVARSAN IN SYPHILIS OF THE CENTRAL NERVOUS SYSTEM AND IN TABES. G. L. DREYFUS, p. 525.

The author regrets the fact that neurologists are so slow in acknowledging the benefit to be gained for cerebro-spinal syphilis and tabes by mixed salvarsan and mercury treatment, earnestly and persistently applied. This is explained, however, by the fact that some cases seem to lose under the treatment; but this is usually only temporary if treatment is wisely continued. In the 3 years of his experience he has seen, among 250 patients receiving some 3,000 injections, only one very unpleasant result. In the early days of salvarsan one of his patients was stricken with a luetic meningo-encephalitis 2 days after his dose of salvarsan, which had been given on the same day as his lumbar puncture. This neuro-récidive fortunately cleared up in two weeks.

His doses now are smaller, practically never over 0.4 gm., but given often, so that the patient receives 0.7 to 0.8 gm. per week, in 6 to 8 weeks 4 or 5 grams. In following series (up to four) 3.0 or 4.0 grams are given.

He gives salvarsan as the rule, neosalvarsan where a very mild, non-irritating effect is desired, and both in concentrated form, intravenously.

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Reactions are very unusual with the present technique. Especial care is taken (small injection of neosalvarsan) in cases with lung, circulatory, or kidney lesions and in early brain syphilis.

In spite of a course of 3 grams of salvarsan and 0.5 gram mercury as injections of calomel or gray oil, 2 of his patients had in 3 months neurorécidives.

The author recommends making the first course as long as possible, as patients commonly postpone their return to the clinic until they get a recurrence. When possible, a second course of treatment in from 6 to 8 weeks is administered.

Of 24 cases of neurorécidive treated, in 7 the spinal fluid was entirely cleared, which the author, with Benario, considers a cure. These have all remained free from any manifestations for from one to three years. Of the 8 remaining cases which could be traced, 5 have remained clear of clinical symptoms, and 3 have had recurrences. Failure to obtain a cure was due either to refusal of a second course of treatment or to postponing the second series. It is also important that the injections follow at the right intervals, preferably every day or every second day, anyhow no farther than 5 days apart.

In later cerebro-spinal syphilis he always promises the patient an improvement when the spinal fluid is still abnormal. When it shows no signs, it may be that the infection has run its course and the symptoms are caused by permanent changes. Still, even in these cases, the treatment is well worth while trying, especially in endarteritis luetica and in cases of involvement of the auditory nerve. Of his 125 cases of tertiary lues of the central nervous system, he has succeeded in clearing up the spinal fluid in only 3, yet many of the others refuse to interrupt their work for another course of treatment, because they feel entirely well. To these cases he gives, on the first and third days, injections of calomel or gray oil, on the fifth and seventh days, salvarsan, 0.2 gm. and 0.3 gm., and so on, for 6 to 8 weeks, increasing the dose of salvarsan to 0.4 gm., but not higher.

Tabes is given at first in doses of 0.1 or 0.2 gm. salvarsan every second or third day, watching for reaction. After four or five of these have been taken without reaction, the dose is increased to 0.3 gm. After 1.0 to 2.0 gms. have been given, mercury is cautiously added, alternating with the salvarsan; 84% of 77 cases of tabes were distinctly improved.

SALVARSAN THERAPY AND SYPHILIS OF THE CENTRAL NERVOUS SYSTEM (INCLUDING TABES DORSALIS). G. IWASCHENZOFF, p. 530.

A report on 130 cases. The 39 cases of luetic myelitis received in the first period of salvarsan therapy 0.2 or 0.3 gm. every two weeks, later on 0.4 to 0.5 gm. of salvarsan or 0.6 to 0.9 gm. of neosalvarsan, every week. Eight of these cases are nearly well, 11 are distinctly improved, 4 have improved in respect to certain symptoms, and 4 have not responded to treatment. One case has gradually grown worse and one has died. Sensory symptoms were the first to yield to the treatment, the bed sores healed, then the urinary difficulty disappeared and the motor symptoms improved. Pathological reflexes were never changed by the treatment. The fatal case in this series was one of meningo-myelitis at the level of the 4th and 5th cervical vertebræ. The first injection of 0.4 gm. salvarsan caused a severe headache of three days' duration. On the 7th day 0.3 gm. salvarsan was injected, and was followed on the next day by dyspnoea, shallow respiration and rapid pulse. After temporary improvement in the symptoms they recurred on the 7th day and death ensued on the 8th day with signs of pulmonary œdema. The post mortem examination revealed an extraordinary compression of the cervical cord by fibrin deposits on the meninges. Death was caused probably by a Herxheimer reaction in this area. The author believes that a more careful dosage might have saved this patient.

Of 14 cases of cerebro-spinal syphilis, 5 were greatly benefited, 5 only mod-

erately helped, and 4 not at all. The difficulty with this class of cases is the great rapidity with which the process advances in some of the cases and the impossibility of determining whether the symptoms are due to an active disease or to the permanent changes left by a past infection. These cases received from 0.2 gm. every two weeks up to 0.5 gm. of salvarsan or 0.75 gm. of neosalvarsan every week. Cases which had been refractory to mercury and iodides were often greatly benefited.

Of 48 cases of tabes, 23 were greatly improved, 15 benefited in respect to certain symptoms and 10 not helped. The dosage was about the same as in cerebrospinal syphilis. The author has no doubt that tabes as well as the other forms of nervous syphilis are benefited by salvarsan.

He has observed no appreciable difference in the clinical results between salvarsan and neosalvarsan. Small doses frequently are better than large ones at longer intervals. The dosage must be individualized with great care.

THE TECHNIQUE OF THE STERILIZATION OF SYPHILIS BY SALVARSAN. LEREDDE, p. 533.

The author deplors the lack of precision of dosage and of a realization of the seriousness of the syphilitic infection which were responsible for the failure of treatment in the presalvarsan era and are still too prevalent. He protests against the dermatologic idea that syphilis is a mild, easily controlled disease instead of one of the most deceptive and severe infections in existence. He believes in discarding mercury and depending on salvarsan alone. His rules for treatment are given under two heads:

I. Sterilization of early syphilis.

(a) The treatment must be given as early as possible. The difficulty of cure is many times greater at the beginning of the secondary stage than it is in the primary stage. The only means of protecting a syphilitic from the danger of his infection is to cure him in the first stage.

(b) The treatment must be energetic. Salvarsan and neosalvarsan should be used in "normal doses (0.01 per kilogram (606) or 0.015 (914))." With a patient of 60 kilograms with normal heart, liver and kidneys, and who eliminates arsenic normally, one can safely give a dose as high as 1.20 gms. or even 1.50 gms. of neosalvarsan. But one must never give such doses in the beginning. Most of the fatalities occur after the first or second doses. Especial care must be exercised in cases with nerve involvement, especially in tabes or paresis (Herxheimer reaction), and in cases with impaired heart, liver or kidneys (toxic action). In these, the first dose should be 0.15 or even only 0.10 gm. of neosalvarsan, and the second not sooner than the eighth day thereafter and very little if at all larger. But to continue with small doses when large ones are indicated is to condemn the patient to continued illness instead of curing him.

(c) The treatment must be one with lasting effect. In 1911 and in the early part of 1912, when the intervals between courses of treatment averaged about two months, fluctuations in the strength of the Wassermann reaction were common; but since the intervals were reduced to 3 weeks, only a steady decrease in strength of the serum test has been seen. Leredde uses either 3 small series of injections with intermission of 3 weeks, or one long series of from 7 to 10 injections. In the first short course the usual dosage runs 0.15, 0.2, 0.3, 0.6 gms. of neosalvarsan. The second and third courses usually consist of injections of 0.6, 0.9 and 1.2 gms. neosalvarsan. In the long series he increases the dose in the same way; but as the Wassermann reaction weakens, the dose is gradually decreased. The injections are given at intervals of one week.

(d) The treatment must be controlled by observation of the serum test. The author uses parallel with the Wassermann reaction the more sensitive modification of Hecht-Weinberg-Jacobsthal. When the serum reaction has become nega-

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tive, lumbar puncture is necessary. The slightest abnormality, hypertension, albumin or globulin, lymphocytosis, indicates the need of further treatment. If the spinal fluid is altogether normal, reactivation should be tried a month later and the serum tested at least four times between the 5th and 30th day after the provocative injection. A second lumbar puncture should follow the first if that is negative.

II. Sterilization of old syphilis.

In early cases we are justified in considering the freedom from clinical signs and signs in the serum and spinal fluid over a certain period as indicative of a cure. But in older infections this is no longer true. Lack of symptoms, negative Wassermann, even normal spinal fluid and a negative result from reactivation are not proofs of a cure. The author has seen in tabetics under antisypilitic treatment the persistence of many clinical symptoms after the spinal fluid had become absolutely normal, and just as important, the appearance of the Herxheimer reaction after a salvarsan injection. But without being able in these cases to obtain a real cure, their symptoms can be relieved by earnest treatment, and they can in a measure be protected from relapse by occasional short courses of treatment.

The full value of the work of Ehrlich will be realized only when the correct rules for the use of salvarsan are known.

TECHNIQUE AND EFFECT OF SUBCUTANEOUS INJECTIONS OF NEOSALVARSAN. WECHSELMANN AND EICKE, p. 535.

So far as the authors know, only one other report on the subcutaneous injection of neosalvarsan has appeared, that of Fabry. Their own experience covers 7,000 injections, and they are convinced of the usefulness of the method. The patients have ceased to object to subcutaneous injection since the technique has been perfected. The chief requirement to success is the correct placing of the injection just above the fascia, neither in subcutaneous tissue nor muscle. To the signs previously given—rough feel of the fascia, free movability of the point of the needle, great ease of injection of salt solution as a test, and free return of this salt solution through the large needle, he adds another—if the needle is still in the connective tissue, it will on torsion be bound by the tissues wrapping about it so that the twisting movement is limited and often the skin shows the effect of the twisting. Untwisting the needle and pushing it further gives the correct location.

The neosalvarsan is dissolved in hot 0.7% salt solution, 0.45 gm. of the drug to 0.5 cc. salt solution. Aseptic precautions must be strictly observed, abscesses having in two cases resulted when the sterilization of the skin with iodine had been omitted.

Two specimens of the tissues about such points of injection are described. In one, after careful search, they found a gray area of the thickness of a card and as large as a ten pfennig piece (2 cm. in diam.—Reviewer), exactly over the fascia. The other was about the same size but 4 mm. thick, because, on account of the restlessness of the patient, some of the fluid was injected into the subcutaneous fat. No trace of the salvarsan could be found. This compares well with the necroses following intramuscular injections of salvarsan or the soluble or insoluble salts of mercuric. The authors explain that the necroses in muscle and the infiltrations in connective tissue are due to the poorer lymphatic supply of these tissues. The small amount of fluid injected by the authors also contributes to their good results.

The results of this method they praise highly. Of 100 cases of early secondary syphilis, infected not more than 12 weeks and not previously treated, only 42 carried out the treatment to the required extent. In from 4 to 6 weeks (average 37 days) all these patients were clear clinically and serologically after

repeated examination. The cases treated with the subcutaneous method alone did as well as those given both subcutaneous and intravenous injections (the latter of old salvarsan). By a purely intravenous technique they succeeded rarely in obtaining a result so quickly.

(The temperature of the hot salt solution is not given. This seems to us important.—Reviewer.)

TECHNIQUE AND EFFECT OF THE INTRAVENOUS INJECTION OF NEOSALVARSAN. J. KATZENSTEIN, p. 539.

The technique of the concentrated intravenous injection is described. The author uses a combined mercury, salvarsan and iodide therapy, consisting of injections of enesol for two weeks, then a dose of neosalvarsan, again enesol for two weeks followed by neosalvarsan, then a third course, the dose of neosalvarsan being gradually raised so that the last dose is No. IV. Then an intermission of two or three weeks, in which iodide is given and the mercury and salvarsan course is repeated once or twice after that.

He is especially interested in cerebro-spinal syphilis, and insists that in many atypical nervous cases syphilis can be diagnosed if an earnest search for its diagnostic signs is made. Several interesting cases are cited to illustrate this. Greater efforts should be made by the general practitioner to detect tabes and paresis early, when much can be done for them by vigorous and persistent treatment. Too much reliance should not be placed on the negative serum Wassermann, for syphilis must be diagnosed often in its absence.

TECHNIQUE OF THE CONCENTRATED NEOSALVARSAN INJECTION. R. SEYFFARTH, p. 541.

A description of the injection of neosalvarsan up to 0.9 gm. dissolved in only 2.0 cc. freshly boiled distilled water (practically the same as that described by C. Alexandrescu-Dersca in No. 29, lx, of the *Muenchener medizinische Wochenschrift* and reviewed in these columns.—Reviewer). Seyffarth mentions the taste or odor resembling that of Hoffmann's drops, experienced by nearly all his patients during or immediately after the injection. He also warns of the infiltration caused by the injection of the smallest quantity of the concentrated solution into the connective tissues. He has, however, never seen any lasting harm from it.

CONTRIBUTION TO THE SYPHILITIC REINFECTIONS. E. HARDRAT, p. 541.

Two additions to the list. The first had a small chancre to the right of the frænulum, roseola and glands. Wassermann negative. Because of his reacting strongly to salvarsan he was given 18 small doses, totalling 1.8 gms. salvarsan and 0.4 neosalvarsan. He also received an injection of calomel every four days. The Wassermann became negative and remained so and the spinal fluid was negative when examined about two months after the beginning of treatment. He was therefore considered well. Thirteen months after his first visit to the clinic he returned with a hard lesion to the left of the frænulum, inguinal glands and a roseola.

The second case had a chancre on the inner side of the prepuce, showing plenty of spirochætæ, inguinal glands and a typical, sharply limited reddening of the pharyngeal mucosa. He received 3 injections of calomel and 1.7 gms. salvarsan in 3 injections, one intravenous, one subcutaneous and one intramuscular. Two years and 8 months after the last injection his spinal fluid was entirely normal. The serum reaction had remained negative and there were no

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signs of syphilis. Over three years after the end of treatment he returned with the scar of a recent chancre on the glans near the attachment of the frænum, with the scar of a contact chancre on the corresponding part of the inner surface of the prepuce. Adenitis, a generalized psoriasiform syphilide, a specific angina and a positive Wassermann completed the picture. The spinal fluid was still clear.

In spite of the failure to find spirochætæ in both these cases in the second chancres, as they did not present themselves for examination until the sores were healing, the author thinks the evidence sufficient to establish them as second infections.

A PECULIAR CASE OF SYPHILITIC REINFECTION. F. LESSER, p. 542.

A man with a primary lesion in the coronary sulcus containing spirochætæ pallidæ, glands in the left inguinal region and a negative Wassermann reaction was given two intravenous injections of neosalvarsan (No. IV) within a week. The chancre healed promptly and the serum reaction remained negative. A little over two months after the treatment he presented himself with an erosion on the glans penis $\frac{3}{4}$ cm. from the site of the former lesion. Spirochætæ were present in the erosion. As his only extramatrimonial connections were ten and two days respectively before the examination, the possibility of infection from them is slight. A month later his wife was found to have a roseola, palmar papules, flat condylomata and mucous patches, dating undoubtedly from an infection three or four months back. The author thinks it most reasonable to conclude that the husband was reinfected by his wife, therefore with his own strain of spirochætæ. (Why not a recurrent local lesion?—Reviewer.)

CONTRIBUTION TO THE QUESTION OF HYPERSENSITIVENESS TO DRUGS. A. POEHLMANN, p. 543.

The literature of experimental work on this subject is reviewed and new experiments reported. Serum from a patient hypersensitive to quinine was injected into guinea pigs, which were then given quinine. No evidence to hypersensitiveness to quinine was obtained. The lethal dose of quinine for a 500 gm. pig was found to be about 0.1 gm. The symptoms of quinine poisoning in guinea pigs resembled closely those of anaphylaxis, and the author suggests that the paralysis of respiration and lowering of temperature might have been so interpreted had they not occurred in the controls as well as in the animals previously treated with serum. He concludes that Bruck's experiments on hypersensitiveness to pork are the only ones showing real anaphylaxis, and that the hypersensitiveness to non-albuminous drugs is as obscure a problem as ever.

(*Ibidem*, Mar. 24, 1914, lxi, No. 12.)

THE ACTIVE ELEMENT OF THE WASSERMANN ANTIGEN. W. KLEIN AND E. FRAENKEL, p. 651.

Alcoholic extracts of normal organs are credited by most serologists with as reliable a specific action as antigens in the Wassermann test, as extracts of syphilitic liver. The artificial antigen, a mixture of oleic acid, soap, lecithin and cholesterin, has some specific action, but often fails on known luetic serum. Noguchi has done more than any other investigator in the attempt to isolate the active element of antigen, holding that the phosphatids (the acetone insoluble portion of the alcoholic extract) are the active bodies. Thiele and Embleton find, however, that pure phosphatids are inactive. Addition of cholesterin activates them.

Klein and Fraenkel found that Noguchi's claim is correct, that a 0.3% solu-

tion of the phosphatids gives the highest antigen value. By precipitating once or twice with acetone and redissolving in alcohol, they obtained a solution of a body more acid than egg lecithin, to which an alcohol insoluble, soap-like body clung. This was about 5% of the soluble portion. The soap-like body had a very strong complement binding power, more than 10 times that of lecithin; but increased the specific action of lecithin markedly when added in minute amount. They conclude from their work that the antigen value of beef heart extract depends on a combined action of lecithin, a small amount of a soap-like body reacting to ammoniacal silver-like jecorin, and free cholesterol.

A CASE OF HÆMORRHAGE OF THE PIA MATER AFTER CALOMEL-SALVARSAN TREATMENT. F. MORPURGO, p. 657.

A syphilitic in the primary stage was given 0.6 gm. neosalvarsan three days after the first calomel injection and two doses of calomel thereafter, on the third and fourteenth days. Seventeen days after the neosalvarsan he had a scarlatiniform rash over the whole body and a temperature of 39.2° C. No albumin in the urine. From this time on, he had a fluctuating fever accompanied by subcutaneous hæmorrhages and hæmorrhages in the mucous membranes, epistaxis, œdema of the hands and feet and, with the increase in these symptoms, hæmaturia and visual disturbance, due to hæmorrhages in the retina. These finally, after about four months, cleared up, leaving a permanently impaired vision. No albumin was ever found in the urine aside from the hæmaturia. The author thinks the case a plain one against neosalvarsan.

THE REGISTRATION OF DOSAGE IN RADIUM AND MESOTHORIUM THERAPY. G. KLEIN, p. 661.

Because of the tendency to think of radiotherapy as treatment with radium only, instead of including Roentgen and mesothorium treatment, the author suggests the word "actinotherapy" to designate this group.

To compare with the sign "X" for Roentgen rays he suggests "y" for radium rays and "z" for the rays of mesothorium, or Ra for radium and Me for mesothorium. Instead of the usual method of giving the number of milligram-hours, which does not specify whether 10 milligrams were applied for 10 hours or 100 milligrams for 1 hour, he would write $1 \times 100 \text{ Ra} \times 10 \text{ hrs.}$, which reads 1 treatment with 100 mg. radium (radium bromide activity) for 10 hours. He favors the signs Ra and Me over y and z because they are more easily understood in English and French as well as in German. For the same reason he suggests the word *Serien*, *séries*, or *series* to designate the groups of treatments. Until we have an accurate measure for the dose of Roentgen rays the effort to simplify their registration will not be successful.

(*Ibidem*, Mar. 31, 1914, lxi, No. 13.)

A NEW SKIN REACTION IN PREGNANCY. E. ENGELHORN AND H. WINTZ, p. 689.

The Abderhalden dialyzing test for pregnancy has been a disappointment to the authors, and they believe it too unreliable to serve as a basis for a diagnosis of pregnancy. Engelhorn conceived the idea of trying for a cutaneous test like the von Pirquet, the luetin reaction in syphilis and the trichophyton test for ringworm. They therefore made an extract of placenta which they call "placentin," and use it for a cutaneous test like that of von Pirquet. They have not yet succeeded in simplifying the method of extraction or in producing a "placentin" suitable for intracutaneous use.

A positive reaction shows in about 36 hours as swelling and redness at the

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point of inoculation and a slight browning of the surrounding area. All pregnant cases gave a positive test. All non-pregnant adults were negative. Three women tested in the premenstrual period showed a slight reaction; but not decided enough to be at all misleading. Seventy pregnant and 53 non-pregnant were tested. A six-year-old child with a vesicular eruption gave a positive reaction.

The reaction is present after the 7th week of pregnancy and disappears after the 4th day of the puerperium. It is of great interest theoretically; but only a much larger series of tests can demonstrate its clinical value.

PROPHYLAXIS AND THERAPY OF PELLAGRA IN THE LIGHT OF THE VITAMIN THEORY. C. FUNK, p. 698.

The author reiterates that the pellagra question is now just where the beriberi question was ten to fifteen years ago. Many theories are extant, the cause is being earnestly sought; but meanwhile the disease spreads steadily, killing about 20,000 people in North America between 1907 and 1912. "Shall we wait for the investigators to agree as to the ætiology, or can an active effort at prophylaxis be made at once?" The key to the question is found in the analogy to beriberi. Corn, like rice, loses its vitamins with the loss of its outer layers. This robbery of the grain is especially well done in America, which explains why the mortality is so much higher there than elsewhere. The discarded, vitamin-rich part is used as cattle food, like other food rich in vitamins, producing a marked increase in the milk production.

It is often asserted that pellagra is not caused by a corn diet, for it occurs also outside the corn belt. This may be explained by the possibility of a diet of polished rice sometimes causing it, as beriberi is sometimes caused by a sago or white bread diet. The experience of Nightingale in the Victoria prison, Rhodesia, is cited. He had 1,200 cases of what he calls "zeism" caused by a diet of well-milled corn and cured by the use of whole corn meal in the dietary. Funk is sure that these were causes of pellagra in the early stage, before the nervous symptoms had appeared and the prognosis had become so serious. Macauley, of Cape Town, South Africa, reports an epidemic of scurvy and pellagra caused by corn meal from which the bran had been removed and cured by the change to whole corn meal.

The prophylaxis of pellagra can be briefly summed up. Only whole corn meal, without any loss, must be used as food. Potato culture or the free importation of potatoes must be encouraged in the pellagra zone.

The therapy is equally simple. For the severe cases the juices of raw fruits, vegetable soups, meat juice or meat broth and raw or only slightly cooked milk. For less severe cases raw fruit, meat, vegetables, butter and potatoes. As special treatment, yeast preparations and cod liver oil.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Sept. 10, 1914, xl, No. 37.)

Abstracted by CLARENCE ALLEN BAER, M.D.

MISTAKES IN SALVARSAN TREATMENT OF SYPHILIS. KROMAYER, p. 1736.

The author first gives an account of the positive therapeutic effects of mercury in syphilis. These are, first, that it causes the lesions of syphilis to disappear quickly. Second, that in at least 90 per cent. of the cases of syphilis an energetic use produces a cure. Third, that mercury can be used in chronic conditions over a long period without injury.

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Regarding salvarsan, the author states it is positively known that it, first, causes the general lesions of syphilis to disappear, the same as mercury; second, that recurrences, particularly neurorecurrences, are very common after one large dose or repeated large doses of salvarsan. Third, that some cases of death have been reported after the use of large doses of salvarsan.

The author further states that the combination of mercury and salvarsan is the ideal treatment. Salvarsan has two great drawbacks, namely, the inconvenient intravenous application method and the high price. He believes that large single doses are contraindicated, the maximum single dose ought not be over 0.4 gram. The mistakes ascribed to salvarsan are due to too large a dose, too concentrated a mixture, organic or inorganic substances in the water.

In conclusion the author states that, after four years' experience with the dose, length of interval and repetition in the use of salvarsan, we know just as much as after 300 years' use of mercury.

ANNALES DES MALADIES VÉNÉRIENNES.

(March, 1914, ix, No. 3.)

Abstracted by PAUL E. BECHET, M.D.

THE ABORTION OF SYPHILIS BY SALVARSANOTHERAPY. GUIARD, p. 161.

Guiard quotes the pessimistic opinion of Lévy-Bing, who failed to abort syphilis with salvarsan in ten cases of the disease. On the other hand, he states that Neisser expressed the conviction that salvarsan was capable of producing an abortive cure, and that he had arrived at this opinion after the investigation of hundreds of reported cures. The author agrees with the opinion of Neisser, and is firmly convinced, after personal experience, that it is possible to completely sterilize the organism and to abort syphilis with salvarsanotherapy. He believes that the lack of success in Lévy-Bing's cases was due to insufficient dosage. He mentions the apparent favorable effect of a preliminary injection of adrenalin in the accidents following the use of salvarsan.

PRESSE MÉDICALE.

(March 14, 1914, No. 21.)

Abstracted by PAUL E. BECHET, M.D.

RAT LEPROSY. MARCHOUX, p. 201.

Marchoux believes that rat leprosy, first discovered by Stefansky in 1903, has a symptomatology and pathology which closely resembles human leprosy. Rat leprosy was not transmitted through fleas or lice. Sarcopes, demodex and flies could transmit the disease. Monkeys, rabbits and other laboratory animals proved refractory to inoculation.

THE ÆTIOLOGICAL RÔLE OF SYPHILIS IN CHRONIC AORTITIS AND INTERSTITIAL NEPHRITIS. LIAN AND VERNES, p. 204.

Lian and Vernes, in investigating the ætiological factors in their cases of aortitis and nephritis, eliminated those cases who gave a history of acute articular rheumatism and previous attacks of scarlatina. In five cases of aneurism of the aortic arch, without specific history or symptoms, the Wassermann reaction was positive in all. Of 26 cases of chronic aortitis with aortic insufficiency, 11 were

clinically syphilitic and 17 showed a positive Wassermann. In 11 cases of chronic aortitis without aortic insufficiency, 2 were syphilitic and 1 gave a positive Wassermann. In 22 cases of hypertension and arteriosclerosis, with or without interstitial nephritis, 1 proved syphilitic and 5 gave a positive Wassermann. They conclude by stating that chronic aortitis with aortic insufficiency is (in the absence of a history of acute articular rheumatism), with rare exceptions, of syphilitic origin. In adult life, arterial hypertension, arterio-sclerosis and interstitial nephritis are frequently caused by syphilis, but in the aged these conditions are as frequently caused by other ætiological factors.

JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE UND UROLOGIE.

(June, 1914, xiv, No. 6.)

Abstracted by FRED WISE, M.D.

CONCERNING THE SYSTEMATIZED COMEDO-NÆVUS. OKAMURA, p. 475.

The author describes a band-like unilateral nævus of the chest in a young male adult; the affected area was pigmented and contained comedos and acne-like lesions, together with small scars. A colored illustration accompanies the article.

Microscopic examination showed few changes in the rete Malpighii; here and there some thickening was evident, with papillary elevation above the niveau. In some places the rete pegs were broadened but not markedly lengthened and formed an irregularly shaped meshwork, the spaces of which were filled with lamellated horny masses. There was increase of pigment both in the basal cells and the more superficial layers. The stratum granulosum was poorly developed or altogether absent; the granules were fine and meagre. The stratum corneum was thickened as a whole and showed parakeratosis. In the furrows of the skin and in the hair follicles there was a marked hyperkeratosis.

The chief changes in the corium consisted in the enlargement of the papillæ, which was evident in places, projecting above the niveau. In the papillary layer the fixed connective tissue cells were increased; in some of the sections, cell-nests were seen just beneath the rete pegs or in the papillary bodies; these were nævus cells. The collagen was unchanged and there was no marked increase of mast cells; in the papillæ the capillaries were somewhat dilated and increased; the coil glands were normal. In sections which contained the comedos, the hair follicles were greatly widened and filled with lamellated horny masses. The hyperkeratosis, which also involved the gland ducts, extended deep down, so that the reticular layer contained cystic dilatations which contained horny masses. The other layers of the epidermis showed but little or no alteration. The sebaceous glands were entirely unaffected; they showed neither hypertrophy nor hyperplasia.

The hyperkeratosis plays the most important rôle in this condition. Evidently there is no relation between this form of nævus and the so-called nævus sebaceum.

The author refers to 18 articles in the literature.

CUTIS REACTION AND VACCINE TREATMENT IN CANCER. NAKANO, p. 492.

A PECULIAR SERPIGINOUS PAPILLARY CUTANEOUS ULCER (DERMATITIS CHRONICA SERPIGINOSA EXULCERANS FRAMBÆSIFORME). NAGAMATSU, p. 497.

FIVE CASES OF EXTRAGENITAL CHANCER. KIDA, p. 521.

RUSSKI JOORNAL KOJNIKH E VENERICHESKIKH BOLEZNEI.

(February, 1914, xxii, No. 2.)

Abstracted by M. L. RAVITCH, M.D.

THE CAUSE OF FEVER IN LATENT SYPHILIS. BOGROV, p. 50.

Citing Fournier's teachings that fever is only incident in the secondary stage of syphilis, particularly during the presence of the chancre, and is very seldom seen in the tertiary stage, Bogrov claims that exceptions are quite often found in syphilis of the liver and lungs. Hallopeau and Fouquet coincide with Fournier's views and have found a very few cases of fever in the tertiary stage of syphilis of the liver, lung and brain. That fever is met with in the tertiary stage of syphilis is vouched for by a good many syphilographers. Lancereaux, in 1866, cites a case of hereditary syphilis accompanied by fever. Prior to this year no mention was made as to the occasional presence of fever in tertiary syphilis. In the seventies, quite a good many references are made in regard to fever in tertiary stages. Wunderlich and Baumler found fever in such cases where the liver, brain and bones were involved. Hirschberg and Raichline, in 1895, found typhoid-like fever in syphilis of the liver; the fever disappeared after administration of mercury for 20 days. Gerhardt, in 1898-1900, described hectic fever in syphilis of the liver. Many Russian syphilographers cite such cases, among them being Botkin, Ratner, Peabart, Tandov, Golubinin, Schwartz, Titov, and Rebrich. Among the German writers may be mentioned Einhorn, Klemperer, Ewald, Israel, and Lipman, the last also having reported several cases.

In 1904, Rosenbach disputed the presence of fever in tertiary syphilis, claiming that such cases were not syphilitic and that fever was due to some other disease of the liver, and that the disappearance of the fever under administration of mercury was due to the fact that mercury acted beneficially in various diseases of the liver. But the Russian writers, long before Rosenbach made his statement, have shown that syphilitic fever may be influenced and controlled by administration of iodides. Later on many other syphilographers reported fever accompanying syphilis of the liver, lungs, nerves, and viscera and lymphatic glands. Some authors reported fever following syphilis of the heart, aorta, skin, mucous membrane, pancreas and spleen. Many cases of obscure fever could have been traced to latent syphilis if modern diagnostic methods had been employed. Fever from latent cases of syphilis may run from several days to several years. Bogrov cites a very interesting case of syphilitic fever which yielded to mercurial treatment.

What is the real cause of fever in late syphilis? Bogrov claims that the majority of writers are in accord with Fournier that it may be due to accidental infection. Some claim that it is due to absorption of necrotic tissue. But the modern writers on syphilis almost all agree that fever is due to the presence of spirochætæ and the toxins eliminated by them. If this be true, then there is no material difference between the secondary and the tertiary stages. A great many reasons and conclusions are given by different authors.

Bogrov's conclusions are as follows:

- (1.) In latent syphilis we meet with febrile conditions of various types.
- (2.) We meet with cases of syphilis of the internal organs.
- (3.) Antisyphilitic therapy (mercury, salvarsan and iodides) have a prompt action.
- (4.) The febrile condition is due to the presence and multiplication of the spirochætæ.

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(5.) Many data point to the conclusion that late syphilitic fever is due to *spirochætæ pallidæ* circulating in the blood.

THE RELATIONSHIP OF LIGHT AND PIGMENTS. SOLGER, p. 41.

Bogrov, commenting upon Solger's article, voices the latter's opinion that skin pigment-melanin is produced from the red blood-cells, or perhaps from the albumins, but the real cause of its origin is unknown. The abnormal increase of skin pigment is caused by: 1st, external irritants, ultra-violet rays, mechanical injury (pressure and rubbing), and chemical influences (inflammation). 2nd, reflex action of the central nervous system—from pregnancy, in exo- and endogenous intoxication (malaria, syphilis, tuberculosis, etc.). Melanin absorbs ultra-violet rays and defends the tissues against the action of these rays. Hence, in many animals, the side exposed to light is more pigmented than the side which is not exposed.

CHANGES IN CASES OF CHRONIC CONGENITAL PURPURAS. WOLTER, p. 43.

Troitzki cites Wolter's case of congenital purpura. A peasant, aged 16, suffered from purpura of the lower extremities; the lips were absolutely of a dark-blue color. Upon examination Wolter found contraction of the pulmonary artery and *situm cordis inversum*; the aorta was lodged to the left and forward of the pulmonary artery. The patient complained of difficult breathing. Blood was as follows: hæmoglobin, 150%; erythrocytes, 7,800,000; leucocytes, 4,000. Nitrogenous metabolism was observed and found very low.

THE WASSERMANN REACTION IN DERMATOLOGY. DUDUMI AND SARATZEANO, p. 45.

Zelenev claims that Dudumi and Saratzeano found the Wassermann reaction a very useful agent in differential diagnosis of skin diseases. He cites the data collected by these authors. Pelade is seldom of syphilitic origin. The Wassermann reaction in such cases was always found negative. The Wassermann reaction is useful in doubtful cases of psoriasis; the serum of lepers always gives a positive Wassermann, no matter whether the leprosy is of tuberculous or other types; positive Wassermann reaction is found in hybrid form of lupus. The serum of pellagrins gives a negative Wassermann reaction; in ichthyosis no data were obtained on account of the rarity of the disease. In xanthelasma and rhinoscleroma a negative Wassermann reaction was found; the Wassermann reaction was a great help in differentiating plain *echthyma*, *rupia*, varicose ulcers and neoplasms, from those of syphilitic origin. An accurate diagnosis can be verified by successful therapy.

ANÆMIC DERMOGRAPHIA IN CHILDREN. KORNOAWA, p. 47.

Bogrov cites Bonchut's sign: that pressing the skin with a finger-nail caused the appearance of a white streak for about two minutes. This phenomenon of dermographia, thought to be characteristic only of scarlatina, was noticed afterward in many other diseases. According to the author, in 53 infants with scarlatina, there was no reaction; in 12 with measles, 10 gave a positive reaction; in 100 children with scarlatina there was differential reaction according to the state of the disease; at the height of the disease there was always a positive reaction; in the first week this phenomenon occurs very rapidly; later, the reaction is very slow.

OBITUARY.

CHARLES WOOD McMURTRY, M.D.

CHARLES WOOD McMURTRY was born in Pittsburgh, Pennsylvania, on May 1st, 1872. He was the son of George G. and Clara Lathrop McMurtry. His father, a Scotchman, has been long identified with the iron industry in this country, at present being the Chairman of the Board of the American Sheet and Tin Plate Co., a subsidiary of the United States Steel Company.

Dr. McMurtry was educated at the Shady Side Academy, of Pittsburgh, and by private tutors. He was also a student in the Massachusetts Institute of Technology, and later in the Medical Department of Harvard University, from which he graduated in 1897.

After attaining his degree in medicine he went to Europe for graduate study in dermatology and syphilis. He studied in Berlin under Professor Lesser; in Vienna; in Breslau under Professor Neisser, where he remained for three years, holding the position of First Assistant in Dermatology in the Kaiser's Clinic, which required him to become a German citizen; and in Paris under Fournier and Darier. It was under the latter especially that he perfected his knowledge of the pathology of diseases of the skin. He remained in Europe until 1908, excepting for one year when he was in this country. During these years he acquired a thorough mastery of French, German and Italian, so that he was perfectly at home in four modern languages.

He returned to New York City in 1908 and became connected with the New York Skin and Cancer Hospital, as Assistant Physician from 1909 to 1912; with the Medical Department of Columbia University as Clinical Assistant, from 1909 to shortly before his death, and as Instructor in Dermatology from 1910; and with the Out-Patient Department of St. Luke's Hospital as Assistant to the Dermatological Clinic from May, 1914. He generously presented to the Dermatological Department of the Vanderbilt Clinic, Columbia University, a large and fully equipped pathological laboratory; and also expended a great deal of time, thought and money in arranging and fitting up the rooms devoted to the use of the dermatological department. He contributed various papers to medical journals, notably a series on Cutaneous Therapeutics to THE JOURNAL OF

CUTANEOUS DISEASES. In 1912, in collaboration with Professor George T. Jackson, he published a Treatise on the Diseases of the Hair and Scalp, which is the only scientific book on the subject in the English language.

Dr. McMurtry was greatly interested in automobiles and automobiling. While in Europe he motored extensively, and prepared a Diagramatic Road Book of Central Europe, which was published by Brentano in Paris, a second edition of which appeared in 1913.

He was a member of the Medical Society of the County of New York, and of Greater New York; New York Academy of Medicine; American Medical Association; American Society for the Advancement of Science; Harvard Medical; Manhattan Dermatological; International Dermatological; and the Deutsche Dermatologische Gesellschaft. His social clubs were the Metropolitan, Harvard University, and Automobile Club of America.

He never married. He lived at 812 Fifth Avenue, New York, with his parents, who, with three brothers, survive him.

Dr. McMurtry was a hard worker, filled with the German spirit of thoroughness, and had a great fondness for details. As a teacher of histopathology he was painstaking and clear. Those who studied under him spoke in praise of his method and matter. As a man, he was generous in placing himself and all that he had at the service of a friend.

G. T. J.

BOOK REVIEWS.

LEHRBUCH DER HAUT-UND GESCHLECHTSKRANKHEITEN FÜR STUDIERENDE UND ARTZE. von PROF. DR. W. SCHOLTZ, Direktor der Univ.-Poliklinik für Haut-und Geschlechtskrankheiten in Königsberg. 1 Band. Geschlechtskrankheiten. Mit 84 meist farbigen Abbildungen und Tafeln. Verlag von S. Hirzel, Leipzig, 1913.

In this first volume of his text-book of skin and venereal diseases, comprising a book of 474 pages, Scholtz devotes the first 168 pages to gonorrhœa and soft chancre; the rest of the pages deal with the subject of syphilis. The subject of syphilis is handled in a manner so excellent as to be beyond all criticism; every phase of the disease, from a to z, is given attention, the amount of space allotted to the various chapters being proportionate to the importance of the theme. Paragraphs of comparatively minor importance are rendered in small type, permitting a surprising amount of information to be crowded into the volume. The work of other authors is referred to with great frequency, and the results of their investigations are quoted fully whenever the occasion demands. The pathology,

serology and therapy of syphilis are dealt with in great detail, and the latest theories receive due consideration. The volume contains a number of beautiful reproductions of moulages and aquarelles, not only of cutaneous syphilis, but also of dermatoses likely to be confounded with syphilitic eruptions, as, for example, pityriasis rosea and psoriasis. The book is printed on fine paper, with large, distinct type. The value of the work is considerably enhanced by the marginal designations of the contents of paragraphs, permitting the reader to find the theme he is seeking, without loss of time.

To judge from this first volume, we may anticipate with great pleasure the appearance of the second part of the work, to be devoted to the diseases of the skin.

F. W.

DISEASES OF THE SKIN, INCLUDING THE ACUTE ERUPTIVE FEVERS. By FRANK CROZER KNOWLES, M.D., Instructor in Dermatology, University of Pennsylvania; Clinical Professor of Dermatology, Woman's Medical College of Pennsylvania; Dermatologist to the Presbyterian, the Howard, the Children's, and the Babies' Hospitals; Assistant Dermatologist to the Philadelphia General Hospital; the Dispensary of the Pennsylvania Hospital; Consulting Dermatologist to the Church Home for Children, the Baptist Orphanage, the Southern Home for Destitute Children, the Eastern State Penitentiary, and the Burd School; Member of the American Dermatological Association; Fellow of the College of Physicians, etc. With 109 illustrations and 14 plates. *Lea and Febiger*, Philadelphia and New York, 1914.

Those who believe and frequently give expression to the opinion that text-books on dermatology are a drug on the market—that a new text-book must of necessity represent only a compilation of older books—will be pleasantly surprised upon reading Dr. Knowles' new book. Evidently the author has determined to steer clear, as far as is possible, of the cut and dried descriptions of cutaneous maladies and to describe the various disease-pictures after his own fashion, portraying them in the light in which he saw them, instead of borrowing the impressions of his predecessors. In a word, the personal element is marked throughout the volume; with the exception of the rarest conditions and the tropical diseases with which the average Northern dermatologist has little acquaintance, the author's depiction of the diseases is evidently first hand.

Within its 546 pages may be found a description—long or short, as the case may be—of practically every dermatosis known. The important maladies—syphilis, eczema, psoriasis, pellagra, etc.—naturally receive the greatest share of attention and space. The compactness of the volume, together with its simplicity of diction, makes it especially valuable as a text-book for students and undergraduates in medicine.

The subject of syphilis is treated in modern fashion. One gains the impression that the author would have liked to deal more fully with this most important chapter of the book, but had to limit himself to an insufficient number of pages. Considerable space is given to the spirochætæ, the Wassermann reaction and the new remedies, and the cutaneous aspects of the malady receive full consideration. In connection with the classification of the syphilitic eruptions, Dr. Knowles has availed himself of the suggestions recently made by Dr. Geo. H. Fox. The author employs the term "nodular" instead of "tubercular" in describing the lesions of cutaneous syphilis, but he still adheres to the designation "tubercular" with reference to the nodular lesions of leprosy; this is a well-known source of confusion to the student in his college days.

The volume contains numerous excellent illustrations and the reproductions of photographs are of the highest order, serving the purpose for which they are intended. Many of the photographs are from cases under the personal observation of the author.

Aside from a certain number of typographical errors, which we hope will not be overlooked in a forthcoming edition of the book, there are also a few statements which may require modification. For example, Dr. Knowles gives us the impression that lesions of the mucous membranes are somewhat unusual in varicella; it is a fact, however, that we see involvement of the mucosæ in about 90 per cent. of cases. The author's definition of "Pigmentation" also requires revision.

The book is printed in large type and on good paper, and, with its complete index, forms a valuable reference hand-book. F. W.

ERRATUM

Dr. Towle's article on External Vaccine Therapy (November issue) was published simultaneously in the *New Orleans Medical and Surgical Journal*. We exceedingly regret that we failed to add a footnote to this effect.

NOTICE

RESOLUTIONS IN HONOR OF THE LATE CHARLES WOOD MCMURTRY, BY THE MEMBERS OF THE MANHATTAN DERMATOLOGICAL SOCIETY.

The members of the Manhattan Dermatological Society, through the Executive Committee, desire to voice their sincere and profound sorrow occasioned by the untimely death of their highly esteemed, respected and valued colleague and fellow member, DR. CHARLES WOOD MCMURTRY. The discussions and suggestions from a trained mind, as well as the loyalty and unselfish interest of an honest man of high ideals, will be a great loss to the Society. His constant willingness to place himself and his laboratory, library and other resources at the disposal of a friend will commemorate his name in the memory of the members.

JEROME KINGSBURY, *President.*

GEORGE M. MACKEE, *Vice-President.*

DAVID L. SATENSTEIN, *Secretary.*

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SOME OBSERVATIONS UPON THE CELLULAR ELEMENTS OF THE BLOOD IN THREE HUNDRED CASES OF VARIOUS SKIN DISEASES.*

By M. F. ENGMAN, M.D., AND R. H. DAVIS, M.D., St. Louis.

(From The Barnard Free Skin and Cancer Hospital and from the Medical Department of Washington University.)

THE present investigation was not undertaken for the purpose of determining any preconceived ideas about the cellular elements of the blood in skin diseases, but to see what the study of a large number of mixed cases of skin diseases, in this way, would elicit.

The literature upon hæmatology in relation to skin diseases deals largely with the eosinophiles, which are stated to be present in excess in several diseases of the skin. The other elements of the blood evidently have not been studied. Upon the eosinophiles there has accumulated quite a lot of literature, the principal articles being those of Leredde, French, Zappert and Schamberg.

The protocol which Schamberg so frequently quotes, and reprints from French's article, is limited to ninety cases, including various diseases of the skin. His results were rather startling.

The differential counts included in the present investigation were made by trained laboratory workers and various trained technicians, on whose results one could depend. From three hundred to five hundred cells were counted.

In a large hospital where there is so much laboratory work to

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 14-16, 1914.

do, it is no mean task to undertake the many differential counts during the day, therefore the cases under discussion were not done at a certain hour of the day, or with any definite relationship as to the hospital regulations; but, most of them were done in the mid-noon or mid-afternoon hours. The cases were counted as they entered the hospital; and, as will be seen from the protocol, many counts were made, in some cases, during the sojourn of the patient in the institution.

The standards of comparison we have adopted are those usual to the writers upon hæmatology, namely:

Normal leucocyte count	5,000 to 10,000
Normal lymphocyte count	20% to 25%
Normal large mononuclear count..	6%
Normal polynuclear neutrophiles..	66% to 80%
Normal eosinophiles	1% to 4%
Normal basophiles	1%

The protocol represents 300 cases, which includes 72 of the various diseases of the skin. We will not bore you, of course, with the reading of this protocol, as it will be published later for the convenience of those interested.

To summarize the principal points of interest in this study, we will take up the cellular elements as they are enumerated in the protocol. In this summary we include only those diseases in which five or more cases were counted, unless something was very striking in the percentages of the cellular count.

LEUCOCYTES. There were 227 cases in which the leucocytes were counted, 88 of which showed an increase above 10,000. We found a leucopenia in 15 cases out of the 227, as follows:

Addison's disease	1 case	Erythema induratum...	1 case
Carcinoma of the breast	1 "	Morphœa	1 "
Dermatitis herpetiformis	1 "	Pemphigus foliaceus...	1 "
Staphylococcic dermatitis	1 "	Pityriasis rubra.....	1 "
Eczema	2 cases	Syphilis	3 cases
		Urticaria	1 case

The fact that leucocytosis does not occur more frequently in the counts representing 72 diseases is rather striking, particularly

in staphylococcic dermatitis, where there was a leucocytosis of only 2 out of 8.

Seborrhœic dermatitis gave the largest number of absolute leucocytosis, which was 8 out of 10. Other cases showed as follows:

Dermatitis herpetiformis	4	out of 14 cases
Eczema, acute	4	" " 19 "
Eczema, chronic	6	" " 8 "
Eczema, infantile	3	" " 6 "
Pemphigus vulgaris	4	" " 6 "
Psoriasis	3	" " 9 "
Syphilis	20	" " 49 "
Urticaria	1	" " 8 "

POLYNUCLEAR NEUTROPHILES. In the polynuclear neutrophiles, of the 276 cases in which they were counted, 140 showed a normal relationship and 125 relatively decreased, with 11 relatively increased.

The increase was most marked in one case of dermatitis herpetiformis, without any discernible cause, and in one case of dermatitis seborrhœica, which can be accounted for by an abscess of the leg.

There was no increase in any of the cases of staphylococcic dermatitis.

In one case of keratosis follicularis the relative count showed 89%, which can be accounted for by the ulceration of the lesions in the perineum. In this case there was an absolute leucocytosis of 12,400.

It is curious to note that after the administration of Coley's fluid in mycosis fungoides, the polynuclear count immediately shot up above 80%. This was noticed after each injection.

Relative decrease of the polynuclears is especially marked in those diseases where some of the other cell elements were increased.

LARGE MONONUCLEARS. The large mononuclears have been to us the most striking feature in this investigation, as we found, out of 272 cases in which they were counted, 180 gave a relative increase. This relative increase is quite marked in the following diseases:

Acne	4	out of 7 cases
Dermatitis exfoliativa	3	" " 4 "
Dermatitis herpetiformis	18	" " 26 "

Dermatitis seborrhœica	9	out of 11 cases
Eczema, acute	16	" " 22 "
Eczema, chronic	6	" " 10 "
Eczema, infantile (in which one would expect a relatively high mononuclear count)	4	" " 6 "
Epidermolysis bullosa (two of the cases being in adults)	3	" " 4 "
Ichthyosis	2	" " 3 "
Impetigo contagiosa	3	" " 3 "
Lichen planus	5	" " 6 "
Lupus erythematosus	2	" " 4 "
Mycosis fungoides	3	" " 4 "
Pemphigus vulgaris	4	" " 6 "
Pityriasis rubra	2	" " 3 "
Psoriasis	11	" " 13 "
Syphilis	30	" " 43 "
Papulo-necrotic tuberculide	2	" " 3 "
Urticaria	4	" " 11 "
Urticaria pigmentosa	1	" " 2 "
Xeroderma pigmentosum	2	" " 2 "
Zoster	1	" " 3 "

This, you can see, is quite striking and is accurate, as in each instance the increase is compensated for by the relative decrease in the polynuclear neutrophiles.

To what this mononuclear increase can be attributed is very difficult to say. This relative increase does not seem to be due at all to the amount of surface involved in the inflammatory process, as the cases of acne and epidermolysis bullosa, for instance, with the involvement of only a small area, showed 4 out of 7 and 3 out of 4 respectively, while in ichthyosis, where the whole surface is involved, 2 out of 3 showed a relative increase.

It might be possible to reason, if the mononuclear leucocytes came from the lymphatic tissue, that the inflammation of the skin where a large area is involved might sweep them into the general circulation; but this is hardly possible from the clinical study of the cases. The origin of these cells, by most observers, is said to be the bone marrow. If this be the case, therefore, they must be attracted chemotactically from the bone marrow by some chemical agent elaborated during the process of these diseases.

We have spoken to several internists and hæmatologists about

this increase, and all of them have expressed some surprise. In one case of dermatitis herpetiformis (our case No. 26), in which the polynuclear percentage was 46, the lymphocyte 0.4 and the eosinophile 5, the mononuclear leucocytes went up as high as 47%. There seemed to be no untoward conditions to have caused this peculiar increase.*

Again, several of the cases of dermatitis herpetiformis showed from 20 to 30%, with a low polynuclear count. We might say in all the processes where there was a marked serous inflammatory condition, the increase was most striking, especially in dermatitis herpetiformis, dermatitis exfoliativa and acute eczema.

LYMPHOCYTES. Out of 275 cases in which the lymphocytes were counted, there was a relative increase in 117 cases. The lymphocytes are, as a rule, relatively decreased in those cases in which the large mononuclears are relatively increased, and the polynuclears especially are relatively decreased in those cases in which the large mononuclears are relatively increased. The most striking instances of a relative increase of these cells were in the following:

Acne	2 cases
Dermatitis herpetiformis	1 case
Dermatitis seborrhœica	2 cases
Eczema	3 "
Eczema, infantile	4 of the 6 cases
Ichthyosis (which, curiously at the time, had a seborrhœic dermatitis)	1 case
Lichen planus	1 "
Lupus vulgaris	1 "
Pityriasis rubra (in which the relative lymphocyte count showed 67%, with no discernible leu- kæmic condition, with an absolute leucocyte count of 4,800. This increase was, of course, at the expense of the polynuclears, in which the polynuclears showed 15%, the large mononu- clears showed 16.8%, and the eosinophiles were absent)	1 case
Pemphigus vulgaris	2 cases

* The following was kindly suggested to one of us, in a conversation last May, by Dr. J. W. Vaughn:

Metchnikoff (Immunity in Infective Diseases, Chap. IV), states that the function of the large mononuclear leucocyte, which he designates by the term "macrophage," is to digest body cells. He states as follows: "In the resorption of

In 4 out of 13 cases of psoriasis and in both cases of purpura the lymphocyte count was increased. Syphilis did not show a marked lymphocytosis except in a comparatively few cases.

These cells were decidedly increased in the tuberculous skin diseases.

In urticaria pigmentosa 1 out of 2 cases showed a very marked increase.

In dermatitis exfoliativa there is a very marked decrease, which is compensated for by the large mononuclears.

In dermatitis herpetiformis, dermatitis seborrhœica and those diseases which showed a large mononuclear count, a relatively low lymphocyte count was observed.

In chronic eczema the decrease is particularly marked.

In three cases of mycosis fungoides the lymphocyte count runs very low and is not compensated for, except with the large mononuclears, which run very high, from 14% to 19%. This is quite curious, as many observers place mycosis fungoides among the leukæmias; but we have always thought that those cases reported showing an absolute leucocytosis were not leukæmias, as none of them showed a relatively high lymphocyte count.

The leucocytosis in all of these cases, consisting principally of the polynuclear neutrophiles, can be accounted for by the tremendous amount of secondary infection, which occurs in most cases of this disease.

In all of our four cases of mycosis fungoides there was no absolute leucocytosis except after Coley's fluid.

the red blood corpuscles the most important part is played by the macrophage." While the increase in large lymphocytes is greater when blood corpuscles of a different species are used, yet there is always an appreciable increase in this type of cell if the corpuscles from the same animal are used.

Metchnikoff also states that white corpuscles, spermatozoa and brain cells are digested by the macrophages after parenteral introduction into an animal. He regards the process of disintegration of the cell introduced as a true intracellular digestion, and does not think that lysis of the cellular element introduced occurs outside of the large mononuclear cell.

As a clinical corroboration of this it has been observed that patients in whom there has been a considerable destruction of the body tissue, such as follows burns of considerable extent, show an increase in large mononuclear cells.

It has been shown that parenteral introduction of malignant cells (Protein Split Products in Relation to Immunity and Disease) produces an increase in the percentage of macrophages. If we consider malignant cells as chemically altered tissue cells, this is further corroboration of the function of the large mononuclear leucocyte; and, if this function be accepted, it explains the frequent increase in this form of cell noted in dermatological lesions in which there is a considerable destruction of body cells.

In one case of pemphigus foliaceus there was an absolute leucocytosis with a lymphocyte count within the normal and also a low polynuclear count, the increase being due to the eosinophiles.

In pemphigus vulgaris we have 6 cases in which only one shows a high lymphocyte count, and that was one showing an absolute leucocytosis of 14,600.

EOSINOPHILES. As we have stated before, and you well know, the eosinophiles (so-called eosinophile leucocyte) has been more written about in dermatology than any other cellular element of the blood. The literature on this subject is of course well known to you, since the most excellent article by Schamberg which appeared in February, 1912, in which he discussed this question and the literature in a very exhaustive manner, and French's article in *Guy's Hospital Reports*, 1904.

It has been believed by investigators since the time of Leredde (who made one of the first communications upon the eosinophiles in relation to skin diseases) that the eosinophiles, when they appeared in relatively high quantities in the blood, were directed from the bone marrow by some toxic substance. We know at present that their production is undoubtedly greatly stimulated by the presence and often even the extracts of animal parasites in the body.

From modern experiments there is a tendency to believe that they also occur quite markedly in all forms of the phenomena known as anaphylaxis, and especially is it known to occur in experimental anaphylaxis.

It is thought by some that these cells are increased in various forms of split-proteid poisoning. The earliest knowledge of eosinophiles in skin diseases was founded upon the investigations of only a few cases, which has led somewhat to error. French found in his investigations of cases quoted from the literature that only 33% gave an eosinophilia. In his investigation of 90 cases, there were only four which showed marked eosinophilia, but unfortunately, as he stated, there were no cases of pemphigus included in his report, and only one of dermatitis herpetiformis, a disease in which it is supposed to occur in a certain large percentage.

In the present investigation, out of 253 cases in which the eosinophiles were counted, only 71 showed a relative increase, or 28%, which is quite contrary to the prevailing impression, as in most text books upon hæmatology it is remarked that in most skin diseases there is an increase in the relative number of these cells.

In only the following diseases did there seem to be a marked tendency to eosinophilia:

Pemphigus foliaceus
Pemphigus vulgaris
Seborrhœic dermatitis
Dermatitis venenata
Eczema, acute and chronic, and infantile
Ichthyosis
Mycosis fungoides
Pediculosis corporis
Pityriasis rubra

In dermatitis herpetiformis, out of 27 cases, only 13 showed an eosinophilia, a disease in which it is supposed to be most marked.

In pemphigus there seems to be a decided tendency to eosinophilia, as in 6 out of 8 cases there was a high relative increase. Contrary to the opinion of some writers, we believe that this relative increase is more marked in those diseases where there is a great involvement of cutaneous surface.

For instance, in lichen planus, only 1 out of 6 cases showed severe eosinophilia, and in this case it did not occur until there was a terrific explosion of bullæ, involving a large part of the cutaneous surface.

Lupus erythematosus and impetigo contagiosa showed not a single case.

In the erythema group of skin diseases, which is supposed to be due principally to the result of some type of anaphylaxis or some form of split proteid poisoning, there was no tendency to a relative increase of the eosinophiles. This included urticaria, purpura and other forms of the erythema group.

It seems that in these diseases, in only certain stages do these cells appear, as pointed out by a medical friend of ours, who stated that he happened one day to examine his blood for control and he was surprised to find that he had a marked eosinophilia. In five hours after his examination he suffered from a terrific outbreak of urticaria. In the study of our tables it is quite obvious, especially in dermatitis herpetiformis, that a relapse is signalled by a marked increase of the eosinophiles.

The highest percentage of these cells recorded in our investigation was in a case of pemphigus vulgaris, which ran from 45% to 74%, the latter count occurring just a few days before death, when there was also found 9% of myelocytes in the blood. This case had

many blood counts, the percentage of eosinophiles running higher than in any other instance we have seen yet recorded, running, as we said before, from 45% to 74%.

It is curious to note that in another case of pemphigus vulgaris the eosinophiles did not run above 0.6. In the former case, where the eosinophilia ran high, a marked absolute leucocytosis was shown throughout the disease, just before death running up to 41,000, 74% of which were eosinophiles.

We do not believe that any conclusions can be definitely drawn from this investigation. Only interesting points, features and tendencies can be pointed out. To make at all a positive study of the elements of the blood in skin diseases, or in any other disease, would necessitate investigations beyond a mere counting of the cells, as so many other factors have to be taken into consideration. We have tried to cover some of these in the notes appended to the protocol, but we feel to go at all deeply into the subject would necessitate too much academic discussion to interest you.

PROTOCOL.

Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophils.	Basophils.
	ACNE VULGARIS							
1.	.....	.....	6,800	68	13	16	1.5	0.5
2.	Myelocytes, 1% .....	.....	6,000	66.1	1.8	26.7	2.2	1.9
3.	Color index, .83	4,764,000	9,600	57.2	9.4	32	0.5	0.9
4.	.....	.....	.....	39.5	4.5	50	5.5	0.5
5.	.....	.....	8,400					
6.	.....	.....	.....	50	9	39	2	
7.	.....	.....	.....	65.1	4.2	28.9	1.3	0.3
8.	.....	.....	.....	62.8	25.2	6	5.6	0.4
9.	ADDISON'S DISEASE	4,670,000	4,160	52.5	18.5	29		
10.	ALOPECIA, COMPLETE Indican normal; Wassermann negative. No malaria.....	.....	7,800	50	5	44	0.5	0.5
11.	ANGIONEUROTIC OEDEMA	5,760,000	9,200	78	7	14.8		
12.	BLASTOMYCOSIS	5,900,000	10,000	69.8	7.6	21.6	1	
13.	CARCINOMA OF BREAST No plasmodia .....	.....	4,600	71.5	3.5	23.5	0.5	1
14.	CHANCROID Noguchi negative; Ducrey culture positive .....	.....	.....	80	...	20		
15.	CYST (SEBACEOUS)	5,020,000	11,400	64	5	31		
16.	DERMATITIS EXFOLIATIVA .....	.....	14,600	50	6	8.8	33.6	1.6

17.	Quinine .....	.....	38.8	30.4	24.4	6	0.4
	Skin clearing, weak, quinine	.....	60	21.6	11.2	6	1.2
	Suprarenal gland, no quinine	.....	52.8	24	15.2	8	
	Very weak. Strychnine. Died 2 weeks later.....	3,570,000					
18.	.....	5,586,000	55.3	35	11	0.5	
19.	.....	4,600,000	68.6	8.2	19	3.6	0.6
20.	No plasmodia	9,600	56.5	4.5	37	2.5	0.5
	DERMATITIS HERPETIFORMIS						
21.	Relative lymphocytosis .....	.....	46	4	42	2	
22.	Dil. ac. Sulph. gfts. V, t.i.d. No plasmodia.....	.....	53	8	33	6	
23.	Vegetable diet. No plasmodia. Ac. sulph. dil: M. XX, t.i.d.	8,000	59	5.5	31.5	4	
24.	Attack caused by sod. iodid.....	.....	50	20	14	16	
25.	Vegetable diet	4,000,000	78	4.7	16.7	0.3	0.3
26.	.....	.....	46.8	47.6	0.4	5.2	
27.	Vegetable diet, no indican. Sulphur internally.....	8,000	74.8	4	12.3	8.2	
28.	.....	.....	74.4	5.2	17.6	2.8	
29.	.....	4,792,000	39.2	27.6	32.4	0.4	0.4
30.	.....	.....	61.5	5	32	1.5	
31.	.....	.....	33.6	29.8	27.8	6.4	2.4
32.	.....	5,704,000	63.6	16.8	19.2	0.4	
33.	.....	5,600,000					
	On entrance	4,250	40.4	26	18.8	14	0.8
	Patient cured	7,500	59	9	28	4	
35.	.....	5,777,000	69.2	18.4	11.2	1.2	
36.	Began like dermatitis medic. ....	.....	75.2	13.6	0.4	10.8	
	Developed into above.....	.....				
	Relapse while taking sod. citrate .....	.....	48.8	30.8	11.6	8	0.8
37.	On entrance .....	.....	78.4	13.2	3.6	4.4	0.4
	Relapse. Arsenic and quinine .....	.....	75.5	10	10	4.5	
38.	.....	.....	53.6	22.4	21.2	2	0.8
39.	.....	.....	69.2	19.2	10.4	0.8	0.4
40.	.....	6,720,000	59	6.5	18.5	16	
41.	.....	.....	50.8	38.6	6	3	
42.	No treatment	5,680,000					
	No treatment	10,200	55	26	18	1	

Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophiles.	Basophiles.
DERMATITIS HERPETIFORMIS (Continued)								
43.	On entrance	5,368,000	14,000	88.5	9.5	2		
	Recovered .....	.....	.....	83.5	21	5	0.5	
	Recurrence .....	.....	.....	68.4	24	0.8	6.8	
	Improving on calcium lactate .....	.....	.....	68.4	15.2	5.6	10.8	
44.	.....	5,000,000	10,000	45	10	22	24	3
45.	.....	4,935,000	6,900	63	9	22	4	
46.	.....	4,500,000	8,900	60	5	22	12	1
47.	.....	4,800,000	8,900	68	0.3	32	0.3	0.2
DERMATITIS MEDICAMENTOSA								
48.	.....	.....	.....	86.8	8.0	3.2	1.6	0.4
49.	.....	.....	.....	61.5	3.5	2.0	14	1
50.	.....	4,710,000	9,200	53.6	10.6	35.6	0.2	
DERMATITIS PERNIO								
DERMATITIS SEBORRHOICA								
51.	Abscess leg. present .....	.....	14,000	90	2	7	1	
52.	Patient had ichthyosis also .....	.....	.....	58	15	21	6	
53.	Patient had ichthyosis also .....	.....	.....	43	1	53	5	
54.	.....	4,704,000	20,000	69.6	14.8	15.6		
55.	No treatment	6,280,000	13,000	42.4	14.4	41.8	1.4	
	External treatment only	5,600,000	14,600	51	35	8	6	
56.	.....	6,240,000	10,600	68	11.2	20	0.8	
57.	Patient had psoriasis also	5,376,000	6,750	51.6	24.4	19.6	3.2	1.2
58.	On entrance. No treatment	5,700,000	16,400	65	15	12.5	6.8	
	No treatment. Relapse after 5 months. ....	.....	.....	60	10	10	20	
59.	.....	5,300,000	5,500	60.8	24	13.6	1.6	
60.	Vegetable diet .....	.....	.....	42	24	17.6	8.8	7.6
	Staphylococcic vac. given. Staphylococcic infection .....	.....	12,968					
	Staphylococcic vac. given. Staphylococcic infection .....	.....	10,300					
	Staphylococcic infection. Autogenous vaccine	4,370,000	9,000	63	8	28.4	6	
61.	.....	.....	12,200	70	8	22	0	1

DERMATITIS STAPHYLOCOCCIC

62.	.....	12,400	65	16	11	8	1
63.	.....	6,800	35	4	59	1	
64.	.....	.....	76.4	4.4	18.8	0.4	
65.	.....	.....	42	24	27	7	

66. Nothing between counts to influence them.....

67.	.....	2,895,000	70	5.66	23.66	0.33	
68.	.....	4,212,500	56.5	13	29	1.5	
69.	No plasmodia. Wassermann neg. Kidneys normal, except low functional test.....	3,475,000	51	12	34	3	
		4,900,000	63	13	24		
		5,870,000	15	17.8	1		
		46	0	42	12	
		70	5	15	9.5	0.5
		46.66	27.66	20.3	4.33	1.0

DERMATITIS TRAUMATICA

70.	5,016,000
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DERMATITIS VENENATA

71.	No malaria	70	13	10	5	2
72.	No malaria	45	13	26	16	
73.	75	12.5	11.5	0.5	0.5

DERMOGRAPHIA

74.	Tuberculosis lung	5,296,000	60	5	31	4.4	
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ECTHYMA

75.	6,450,000	44	24	32		
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ECZEMA

76.	4,860,000
77.	Thyroid, grain 1, t.i.d.	8,000	70	5	23	2	1
78.	3,900,000	61.5	6.5	17.5	13.5	
79.	No malaria	4,500,000	55	4	40	1	
80.	.....	.....	55	2.5	32	10	0.5
81.	Urine negative. Functional kidney test low. No malaria..	8,000	55	2.5	32	10	
82.	Low functional kidney	7,500	53.5	22.5	20	3.5	
83.	Functional kidney fair. No malaria	7,500	70	6	18	5	2
84.	Cellulitis of leg	7,800	70	13	10	5	0.3
	.....	17,200	83.3	0.3	15	...	

Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophils.	Basophils.
ECZEMA (Continued)								
85.	No treatment, Wassermann negative	4,150,000	10,400	60.8	8	28	3.2	
86.	Quinine, small doses, t.i.d.	4,550,000	9,200	56.8	17.2	21.6	4	
87.	.....	5,850,000	8,500	48.8	21.6	26.4	3.2	
88.	.....	4,935,000	6,900	63	9	22	4	
89.	.....	.....	7,200	55	6.5	33	5	0.5
90.	.....	.....	.....	52.8	34.4	7.6	4.8	4
91.	.....	5,210,000	4,000	73.2	19.6	5.6	1.6	
92.	.....	.....	.....	49.6	28	20.4	2	
93.	On entrance. No treatment Relapse. Vegetable diet Well	5,064,000	6,400	42.4	16.4	16.4	24	0.8
94.	.....	4,685,000	6,250	55	18	25	2	
95.	Diabetes. Low functional kidney	3,952,000	4,330	59	10	27.5	7	0.5
96.	.....	5,600,000	10,000	59	11.5	27	2.5	
97.	No malaria	4,465,000	12,500	41.3	7.6	42	8	1
98.	No malaria	4,288,000	8,600	55	.....	40	3	2
99.	No malaria	.....	.....	53.5	22.5	20	3.5	
100.	No malaria	.....	.....	70	13	10	5	2
101.	.....	4,710,000	12,400	73.6	3.8	22.4	0.2	
ECZEMA, CHRONIC								
102.	No malaria	.....	.....	70	.....	19	11	
103.	Severe general eruption. Meat-free diet	.....	20,000	78	5	16	1	
	1 year later. Recurrence. No treatment. No functional kidney test	.....	14,600	74.3	4.3	11.3	10	
	No focal lesions. Anasarca. Therapy, digitalis. Nephritis.	.....	15,000	.....	.....	.....	.....
	Thyroid, 2 grs. t.i.d. Severe recurrence. Functional kidney normal	.....	35,600	.....	.....	.....	.....
	On digitalis only	.....	.....	67.5	12.5	12.5	7.5	
104.	.....	11,200	.....	66.5	1.5	25	6.5	
105.	.....	4,668,000	14,600	70	3	10	16	1
106.	.....	.....	.....	60	24	4.8	10.4	0.8
	.....	3,128,000	13,000	57.2	29.6	10.8	0.4	

107.	On entrance . . . . .	.....	.....	79	2	12	7
	Patient died 3 weeks later from nephritis. No malaria.	.....	.....		
	Polychromasia . . . . .	.....	.....	89	3	3	5
108.	.....	.....	.....	57	2	38	1
109.	.....	5,976,000	.....	69	10	18	3
110.	No malaria. Very low functional kidney test.	.....	.....	39	22	16	22
111.	.....	.....	.....	59	11.5	27	2.5
112.	Wassermann negative	4,465,000	.....	62	7	20	1
113.	.....	5,800	.....			
	.....	8,500	.....			
	ECZEMA, INFANTILE (Exudative Diathesis)	.....	.....		
114.	Age, 7 months. No malaria . . . . .	.....	.....	23	9	46	18
115.	Age, 5 months. Blood platelets normal . . . . .	.....	.....	19	1.5	58.75	20.5
116.	.....	.....	.....	55	10	31	3
117.	.....	.....	.....	70	3	25	2
118.	.....	5,250,000	.....	37	25	30	8
119.	.....	.....	.....	57	12	23	8
	.....	10,200	.....			
	ECZEMA, VARICOSE	.....	.....		
120.	Kidneys normal, no malaria . . . . .	.....	.....	60	25	11	4
121.	Kidneys normal, no malaria . . . . .	.....	.....	70	15	14	1
	.....	8,718,000	.....			
	.....	6,768,000	.....			
	OEDEMA, LYMPHATIC	.....	.....		
122.	Location, face . . . . .	.....	.....	48	18.8	22.8	0.6
	EPIDERMOLYSIS BULLOSA	.....	.....		
123.	.....	.....	.....	61	6.2	31.8	1
124.	.....	5,560,000	.....	80	8.4	6.8	
125.	.....	5,680,000	.....	57.2	34.4	8.4	
126.	2 years old	4,300,000	.....	40	4	54.0	2
	.....	5,336,000	.....			
	EPITHELIOMA	.....	.....		
127.	.....	.....	.....	48.1	23.9	34	4
	Improved X-ray. Multiple rodent ulcer in a young man. . . . .	.....	.....	64	2	28	5
128.	.....	.....	.....	70	8	20	1
129.	.....	4,592,000	.....	51	12	36.6	0.2
130.	.....	5,110,000	.....			
	Mercury and iron	3,181,000	.....			
	Arsenic; tbc, suspected	3,220,000	.....			
	No differential count. Small lymphocytes unusually numerous . . . . .	.....	.....		
	.....	5,472,000	.....			

Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophils.	Basophils.
ERYTHEMA INDURATUM								
131.	.....	4,425,000	4,000	70.4	12.8	12.8	3.2	
ERYTHEMA MULTIFORME								
132.	Disease became bullous	.....	8,000	64.4	34.8			0.8
133.	Also bullous	.....	.....	60.8	16.4	20	2.8	
134.	Also bullous	.....	9,200	66	11	18	5	
135.	Also bullous	5,968,000	11,600					
ERYTHEMA (OSLER)								
136.	Color index, 0.9	4,600,000	5,000	62	8	26	4	
ERYTHEMA SCARLATINOIDES, RECURRENT								
137.	No malaria. No changes in red blood cells	.....	7,400	68.4	3.2	27	1	
138.	.....	.....	10,500	58.1	9.3	31	1.5	
FURUNCULOSIS								
139.	.....	6,450,000	20,000	44	24	32		0.5
140.	.....	.....	.....	82.5	5	10	2	
GRANULOMA ANNULARE								
141.	General lymphatic enlargement	.....	9,600	50.5	4.25	42.25	2.75	0.25
HERPES, RECURRENT								
142.	.....	.....	.....	62.4	16.8	19.6	0.8	0.4
HERPES ZOSTER								
143.	No malaria	5,272,000	7,000	57.1	5.7	30.9	5	1.2
144.	No malaria	.....	7,500	69	10	18	3	
145.	No malaria. Kidneys normal	5,600,000	10,000	60	14	22	3.5	0.5
ICHTHYOSIS								
146.	Patient also had seborrheic dermatitis	.....	.....	58	15	21	6	
147.	Patient also had seborrheic dermatitis	.....	.....	43	1	53	5	
148.	.....	4,930,000	12,000	58.4	31.6	8	1.8	

IMPETIGO CONTAGIOSA

149.	Blood platelets in masses	4,736,000	7,000	60.8	28.4	10.4	...	0.4
150.	.....	.....	.....	58.5	12.5	26	3	
151.	.....	5,040,000	11,600					
152.	Wassermann negative .....	.....	8,800	55	7	35.5	1.5	1

KERATOSIS FOLLICULARIS

153.	.....	5,960,000	10,200	55.2	15.6	26	3.2	
154.	Wassermann: 4 plus	3,175,000	12,400	89	4	7		

LICHEN PLANUS

155.	.....	.....	.....	62.8	29.6	1.6	6	
156.	No malaria .....	.....	.....	73	...	26	0.6	
157.	.....	.....	.....	42	21.2	33.6	3.2	
158.	Bullous eruption. 3 decigrammes salvarsan 3 days before 1st count. Temperature 102° F. ....	.....	11,200	72	12	12	4	
	Aspirin and quinine. Temperature 101° F. ....	.....	.....	69	4	15	12	
	Aspirin and quinine. Disease same .....	.....	.....	44	4	16	36	
	Patient about well .....	.....	8,000	69	19	8	3	1
159.	No malaria .....	.....	17,400	75	5	17.5	2.5	
160.	.....	.....	11,600	64	10	25	0.5	
161.	6,050,000	10,000	46	13	40	1	

LICHEN VARIEGATUS

162.	No malaria	69.7	1.9	27.9	1.3	
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LUPUS ERYTHEMATOSUS

163.	No malaria. Wassermann 4 plus, case also syphilis. Kid- neys normal	4,120,000	12,000	57	11	28	4	
164.	.....	.....	6,200	64	3	31	1	1
165.	.....	.....	.....	65.6	20.4	12	1.6	0.4
166.	.....	4,832,000	12,000	56.5	3.5	35	2	3
	After tuberculin injection .....	.....	12,000	60	3	32	5	
	After tuberculin injection	13,000	60	3	32	5	

LYMPHANGIOMA CIRCUMSCRIPTUM

167.	5,160,000	8,500					
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Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophiles.	Basophiles.
LUPUS VULGARIS								
168.	No treatment .....	.....	5,000	53	...	45	2	
	Local treatment only .....	.....	8,400	52	1.5	45.5	1	
	24 hours after tuberculin .....	.....	5,000	75	13	10	1.5	0.5
MORPHEA								
169.	Anæmic and soft cardiac murmur	{ 2,350,000	4,200	54	15.5	30	0.8	
	HgCl ₂ injections	{ 2,758,000	14,200	60	9	31		
	KI., Hg., cacodylate of iron	2,470,000	4,300	48	6	46		
170.	.....	3,110,000	4,687	69	6	22	2.5	
	.....	4,500,000	7,500	70	5	25	3.5	1
MYCOSIS FUNGOIDES								
171.	On entrance, Wassermann negative	4,500,000	5,000	70	5	15	8	
	Coley's fluid. Fever, 102° F. ....	.....	27,000	87				
	Coley's fluid. Fever, 101° F. ....	.....	25,000	85				
172.	No plasmodia .....	.....	6,200	67	14.2	14.5	3.3	0.6
173.	.....	.....	5,200	52.7	19.3	21.9	5.5	0.4
174.	.....	5,126,000	8,000	62	19	18	1	
175.	.....	5,020,000	11,400	64	5	31		
PARÆSTHESIA								
176.	.....	5,024,000	13,220					
PEDICULOSIS CAPITIS								
177.	.....	4,500,000	12,400	53	11.5	31	3.5	1.5
178.	Pediculosis Corporis	3,955,000	6,093	32	21.5	34	7.5	
179.	No plasmodia .....	.....	5,000	80	5	10	5	
180.	.....	4,075,000	13,000	60	13	27		
181.	.....	.....	.....	33.6	29.8	27.8	6.4	2.4

PEMPHIGUS FOLLACEUS

182.	Dermatitis exfoliativa	14,800	9.6	23	20	47	
	Improving. Quinine, grs. v., t.i.d.	18,000	67.6	4	28	0.4	
	Much improved. Local treatment	13,750					
	Slightly worse. Local treatment	15,500					
	No change. Local treatment	15,400	68	8	21	0	
183.	.....	4,600	52	5	35.5	7	0.5

PEMPHIGUS VULGARIS

184.	.....	3,500,000			4.6	1.4	
185.	On entrance	8,800	76	18	19.2	46	0.4
	Local treatment. Sores from bullæ showed staphylococci.	16,000	18	16.4			
	Apparently well	10,000	36	12	15.5	35.5	1
	Severe recurrence. Vegetable diet. Lactone, buttermilk.	.....	63.2	20	16	0.8	
	Better. On arsenic .....	.....	61	32	3.6	9.6	
	On aspirin and quinine. 8 months later staph. infection.	.....	41.6	17.6	36	4.8	
	Vaccines .....	.....				
	On arsenic	4,762,000	76	5	17	2	0.5
	.....	14,060	51	6	39	3.5	
	.....	9,687	61.4	4.2	32.2	2.2	
	Relapse. Vegetable diet. Iron. ....	.....	52	20.4	26.8	0.4	0.4
186.	On entrance, Wassermann negative	10,000	86	8	12	31	
	Local treatment	11,900	57	6	12	17	
	Recovered	11,562	50	10	23		
	.....	3,020,000	58.4	10.8	28.8	1.6	
	.....	4,600,000	66.5	8	20	5.5	
187.	Salt-free diet	13,750	28	4	23	45	
	Temp. 103° F. Quinine	13,750	33	5	26	36	
	Temp. 101° F. Quinine	12,500	6	2	10	64	
	Temp. 102° F. Quinine. Myelocytes 18% .....	.....	12	3	13	60	
	Temp. 101° F. No quinine. Myelocytes 12% .....	.....	21,875	9	8	71	
	Temp. 102° F. Myelocytes 10% .....	.....	26,010	2	12	63	
	Temp. 100.5° F. Myelocytes 12%. Carbohydrate diet.	.....	9	4	9	67	
	Temp. 100° F. Myelocytes 11%	4,375,000	10	3	13	60	
	Temp. 99° F. Myelocytes 10%. More general diet.	.....	28,125	15	22	50	
	Temp. normal. Myelocytes 5%. Cold baths .....	.....	20,830	10	12.5		
	Temp. 99.5° F. Cool bath. Weaker. Myelocytes, none.	.....	15	2	15	68	
	Temp. 98° F. No myelocytes. Cool baths, very weak.	.....	20,625	8	21	61	
	Temp. 98.5° F. Myelocytes 11%. Cool baths. Very weak.	.....	19,375	10	10	61	
	Temp. 97.5° F. Myelocytes 9%. Short cool sponges. Patient died next day .....	.....				
188.	Wassermann negative	3,220,000	11	1	5	74	
189.	Wassermann negative	14,600	46	2	42	10	
	.....	7,800	56	6.6	36.8	0.6	

Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophils.	Basophils.
PITYRIASIS ROSEA.								
190.	.....	6,460,000	11,600	80	9	10.8	0.2	
191.	.....	.....	7,200	55	6.5	33	5	
192.	.....	.....	13,000	75	3.5	21	..	0.5
PITYRIASIS RUBRA.								
193.	No malaria. On quinine	5,016,000	2,600	60.2	0.2	16.8	21.6	1.2
194.	No leukæmia nodules	2,200,000	4,800	15	16.8	67.4		
195.	On entrance .....	.....	.....	38.8	30.4	24.4	6	0.4
	On quinine. Better. Very weak .....	.....	.....	60	21.6	11.2	6	1.2
	No quinine. Better. Weak. Suprarenal extract.....	.....	.....	52.8	24	15.2	8	
	Slowly weaker. Stimulants. Died 10 days after 4th count..	3,570,000	13,200					
PITYRIASIS RUBRA PILARIS.								
196.	.....	4,260,000	7,400	68	5	29		
197.	.....	4,600,000	16,000	74	2	15	9	
198.	On sod. cacodylate	4,200,000	8,000					
199.	On sod. cacodylate	3,800,000	9,800					
	0.4 gm. salvarsan 3 days before. Thyroid, 2 grs. t.i.d.	.....	.....	60	9.2	30.4		
	Wassermann negative .....	.....	.....	80	3	16	1	
	2 years later. No medication .....	.....	.....			
POMPHOLYX								
200.	On arsenic and iron	4,700,000	11,000	64	14	20	2	
PSORIASIS								
201.	.....	5,376,000	6,750	51.6	24.4	19.6	3.2	1.2
202.	No malaria .....	.....	.....	65	15	18	2	
203.	No malaria. Wassermann negative .....	.....	.....	64	13	18	5	
204.	No malaria .....	.....	.....	82	1	15	2	

205.	.....	.....	.....	60	19.3	16.6	3
206.	.....	4,800,000	.....	58	8	32	2
207.	No malaria. Kidneys normal	6,040,000	.....	70	6.5	22	1
208.	Patient also had seborrheic eczema	5,376,000	.....	51.6	24.4	19.6	3.2
209.	.....	13,000	.....	46	10	42	2
210.	.....	.....	.....	50	7.5	40	2.5
211.	Patient on arsenic	7,000	.....	62	4	28.5	2.5
212.	Lead poisoning also	3,300,000	.....	58	6.6	37.6	1
213.	Arthritis also	5,168,000	.....	75	9	11	1.5
PURPURA							
214.	.....	5,968,000	.....	11,600	.....	.....	.....
215.	.....	.....	.....	17.2	25.6	54.4	2
216.	.....	5,832,000	.....	50.8	3.2	45.6	0.4
RAYNAUD'S DISEASE							
217.	High blood pressure	.....	.....	69	2.5	26	2
	Hypert thyroid	.....	.....	40	40	17	0.8
218.	Hypothyroid	.....	.....	40	19.5	31.7	8.5
SCLERODERMA							
SYPHILIS							
219.	2d stage, Wassermann 4 plus	4,560,000	.....	65	8	26	1
220.	3d stage, Wassermann 4 plus	.....	.....	62	14.8	18.4	4.8
221.	Wassermann 4 plus	.....	.....	.....	.....	.....	.....
222.	3d stage	4,088,000	.....	58	.....	.....	.....
223.	2d stage, Wassermann 4 plus	6,080,000	.....	.....	.....	.....	.....
224.	2d stage, Wassermann 4 plus	.....	.....	66	10	14	4
225.	Wassermann 4 plus	6,240,000	.....	73	7	18	2
226.	3d stage, Wassermann 4 plus	4,384,000	.....	.....	.....	.....	.....
227.	3d stage, Wassermann plus minus	5,480,000	.....	.....	.....	.....	.....
228.	2d stage, Wassermann 4 plus	5,312,000	.....	60	24	10	5
229.	3d stage, Wassermann 4 plus	5,240,000	.....	75	7	13	2
230.	3d stage	4,472,000	.....	.....	.....	.....	.....

Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophils.	Basophils.
SYPHILIS (Continued)								
231.	Wassermann 2 plus	4,728,600	7,300	39	14	45	1	1.5
232.	3d stage, Wassermann neg.	5,224,000	13,000	72	10	14	2	
233.	1st stage	4,392,000	9,600	50	5	40	4	1
234.	3d stage, Wassermann 4 plus	5,760,000	10,600					
235.	3d stage, Wassermann 4 plus, on entrance	5,568,000	16,650	62	9.7	28	0.1	0.2
	3 days after salvarsan	5,328,000	16,650					
	4 days later, no more salvarsan	5,164,000	15,850					
236.	3d stage, Wassermann 4 plus	{ 4,834,000	16,000	75	0.5	23	1	0.4
237.	2d stage, Wassermann 4 plus	6,900,000	8,600	80	2	16	2	
238.	3d stage, Wassermann minus	15,300	15,300	69	11	17	1	
239.	3d stage, Wassermann minus	3,662,500	5,450	49	17	30	4	
240.	2d stage, bullous. Bullæ showed staphylococcus and eosinophilia	3,662,500	5,450	49	17	30	4	
241.	3d stage, Wassermann 4 plus	5,618,000	11,500	69.2	8	20.8	2	
242.	3d stage, Wassermann 4 plus	5,816,000	9,600	51	5	41	3	
	1 day after salvarsan	5,080,000	13,500	74	7.5	18.5		
	2 days later, Wassermann 4 plus	5,280,000	17,600	69	4	29.5		
	1 month later, clinical cure	5,125,000	17,000					
243.	On entrance, Wassermann negative .....	.....	8,200	71.5	11.5	14	0.2	1
244.	1 day after salvarsan	6,056,000	12,000	58.5	12.5	26	3	
	Each day thereafter	5,408,000	11,000	60.2	11	22.7		
	" " " "	5,670,000	11,500	71	9.4	20.7		
	" " " "	5,440,000	7,500					
	" " " "	5,205,000	8,125	69.6	9.2	21.2		
	" " " "	5,696,000	11,300	66	5.5	28.5		
	" " " "	5,365,000	8,730					
245.	.....	5,400,000	10,100	65	1.5	30	4	
246.	3d stage, Wassermann negative, on entrance	1,960,000	6,700	49.5	11.5	35	3.5	0.5
	After salvarsan	2,212,000						
	Wassermann negative; spinal fluid negative; after salvarsan and mercury	3,150,000	9,000	52	16	28	3	1
247.	.....	4,200,000	8,500					

248.	3d stage, no plasmodia	.....	11,200	48.5	5.5	46	
249.	Wassermann 4 plus	.....	9,200				
250.	Wassermann 4 plus	.....	5,600	18.4	21.6	2.4	
251.	Wassermann 4 plus	.....	11,600	60	15.6	20	4
252.	1st stage, Wassermann minus	.....	8,500	62	11	27	0
253.	3d stage, Wassermann 4 plus	.....	4,200	46.4	21.6	29.6	2.4
254.	2d stage, Wassermann 4 plus	.....	11,600	68	0.5	27	
255.	Wassermann 2 plus	.....	9,400	68	7	24	1
256.	2d stage, Wassermann 4 plus	.....	12,400	60	25	11	3
257.	Wassermann 4 plus	.....	14,400	63.6	11.2	12.8	4
258.	2d stage, Wassermann neg.	.....	4,250	49.4	17	33.6	0.2
259.	3d stage, Wassermann 4 plus	.....	10,300	52	21.6	35	2.4
260.	2d stage, Wassermann 2 plus	.....	4,900,000	56	26.8	14.8	2.4
261.	Patient on mercury by mouth	.....	.....	85	3	10	3
262.	No plasmodia. On mercury injection	.....	9,500	70	5	25	
263.	No malaria	.....	.....	76	7.6	22	2
264.	.....	.....	7,500	70	5	25	4
265.	3d stage	.....	4,675,000	66	7	25	
266.	.....	.....	3,800,000	70	.....	28	2
267.	.....	.....	4,992,000	68	6.2	22	
268.	.....	.....	5,100,000	77	1	19	2
269.	.....	.....	8,800	75	.....	23	2
270.	.....	.....	13,200	59	4.6	34.8	0.1

SCROFULODERMA

271.	No malaria	.....	19,000	58	8	32	1
	No malaria. One injection of .0001 of tuberculin 4 days before 2d count	.....	12,400	40	11.5	42	2.5

SEBORRHOEA OLEOSA

272.	5,300,000	62	3	35	2
273.	65.1	4.2	28.9	1.3
				0.3

SPOROTRICHOSIS

274.	4,190,000	67	8	25	
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Case No.	Diagnosis and Notes.	Red Count.	White Count.	Poly-nuclear Neutrophils.	Large Lymphocytes.	Small Lymphocytes.	Eosinophils.	Basophils.
SYCOSIS, STAPHYLOCOCCIC								
275.	.....	.....	.....	62	13.5	21.5	3	
TINEA TRICH. CORPORIS								
276.	Hæmoglobin 22%	2,120,000	5,800	52.5	...	44.5	1.5	1.5
TUBERCULIDE								
277.	.....	5,280,000	11,200	54.4	9.6	35.2	0.8	
278.	Von Pirquet positive .....	.....	.....	66.6	12.5	18.5	2.5	
279.	.....	3,700,000	6,000	57.5	3	37.5	1.5	0.5
TUBERCULOSIS VERRUCOSA CUTIS								
280.	.....	.....	5,000	53	...	45	2	
URTICARIA								
281.	No malaria .....	.....	7,500	76	5	20	3.5	0.5
282.	Chronic nephritis. Albumin and casts .....	.....	4,800	70	4	22	3	1
283.	Chronic .....	.....	6,000	72.4	6	17.7	3.6	
284.	.....	.....	6,000	50	12	33	5	
285.	Chronic .....	.....	.....	83.3	4	12		
286.	On entrance .....	.....	6,400	81	4.3	16	1.3	
	On adrenalin chloride .....	.....	7,500	64	5	30	1	
	Bland diet, alkalies .....	.....	7,000	60	13	27		
	On lactic tablets (bacillary) .....	.....	.....	87.5	4	8	0.5	
287.	No malaria .....	.....	8,000	56	3	39	...	2
288.	On bromide of potash .....	.....	10,500	64.7	7.7	25	2	0.5
289.	No malaria	4,900,000	5,000	60	8	27.5	4	0.5
290.	No malaria. Bronchial asthma .....	.....	.....	46.5	4.5	35.5	12.5	1
291.	Papular type .....	.....	.....	49.6	21.6	23.2	5.2	0.4

URTICARIA PIGMENTOSA

292.	.....	5,138,000	9,600	60.4	32.4	5.2	2
293.	.....	.....	.....	17.2	4.4	77.6	8
	Suprarenal extract and calomel .....	.....	.....	14	3.6	80	2.4

VACCINE ERUPTIONS

294.	Post vaccine bullous dermatitis.....	.....	28,000	39.5	3.5	40	16	1.5
295.	On entrance .....	.....	17,000	68	6.5	20	5	0.5
	Local treatment	14,800	52.5	7	32	8	0.5
	Local treatment	11,800	54	12	26	8	

VERRUCA VULGARIS

296.	85.2	6.8	4.8	2.8	0.4
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VITILIGO

297.	61.5	32	5	1.5	
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XERODERMA

298.	4,992,000	26,000					
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XERODERMA PIGMENTOSUM

299.	9 years old. Sister has it. No ulceration or large lesions..	7,152,000	20,800	60	7	30	3	
300.	8,400	48.1	23.9	34	4	

A STUDY OF THE BIOCHEMICAL PROPERTIES OF CHRYSAROBIN.*

BY

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IN a previous communication we presented the results of an inquiry into the germicidal properties of chrysarobin; this investigation developed the fact that chrysarobin and its derivatives were practically devoid of germicidal activity on staphylococci and on trypanosomes, both in the test tube and in the animal body.

The study of the biochemical properties of chrysarobin was undertaken with the view of determining its effects upon living tissues, and to elucidate, if possible, the manner in which it produces its beneficial results in psoriasis.

CHEMISTRY OF CHRYSAROBIN.

Chrysarobin is made from the central woody fibre of the Andira araroba tree, indigenous to Brazil. It is obtained by extracting the crude powder (called Goa powder in India, and Po di Bahia in Brazil) with boiling chloroform or benzene, evaporating the solution to dryness and pulverizing the residue.

Although this product has frequently been the object of chemical investigation, the nature of chrysarobin, owing to the specific difficulties involved, is still a matter of dispute. The investigation of commercial chrysarobin was started as early as 1875 by Attfield,¹ who thought that chrysarobin consisted mostly of a product known as chrysophanic acid, which belongs to the group of oxyanthrachinons. This view became untenable, however, after Lieberman and Seidler, in an important work,² had shown that besides chrysophanic

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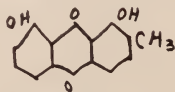
acid, there was contained a substance, $C_{30}H_{26}O_7$, which can be changed into chrysophanic acid by the process of oxidation. Thus, it was first established that a certain constituent of chrysarobin possessed the power of reduction or abstraction of oxygen from other chemical compounds.

In 1899 the investigation of chrysarobin was taken up by Hesse,³ who found that commercial chrysarobin contained no chrysophanic acid, but that it was a mixture of two parts of chrysarobin with one part of chrysarobin-methyl-ether. The same author, in a recent and more thorough work,⁴ came to the conclusion that commercial chrysarobin was a still more complicated mixture than had been previously thought. Owing to the fact that the constituents of chrysarobin do not exhibit marked differences in their solubility in, and their crystallization from, known solvents, and that their nature is influenced by comparatively simple chemical operations, it has not been possible to obtain definite knowledge as to the number of substances contained in chrysarobin and their quantitative relationship.

Hesse maintained that five chemical bodies—namely, chrysophanol-anthranol and its methyl-ether, emodinol and its methyl-ether, and chrysarobol—are the constituents of chrysarobin. Chrysophanol-anthranol and chrysarobol could be isolated directly from the crude product by fractional crystallization, while the other three were obtained after the original material was subjected to certain chemical changes. None of the above-named chemical bodies could be isolated in an appreciable quantity, and therefore none of them could be considered as the chief or even the most important constituent of chrysarobin. However, from the researches of Liebermann, Hesse and certain English authors whose works we shall discuss later, it can be clearly seen that chrysophanol-anthranol is the substance which gives chrysarobin its characteristic properties.

This substance, through oxidation, is converted into chrysophanic

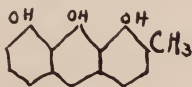
acid, the structural formula of which is



Thus,

chrysophanic acid is a methyldioxyanthrachinon, while the chrysophanol-anthranol molecule has one atom of oxygen less and two atoms of hydrogen more. Chrysophanol-anthranol contains three hydroxyl groups, according to Hesse, and must have a structural

formula as follows:



The work of Jowett and Potter⁵ partially confirms the results obtained by Hesse. Chrysophanol-anthranol could be isolated by them from commercial chrysarobin, but they could not determine the presence of the other substances found by Hesse, while the existence of three new compounds was claimed. In a very recent work, Tutin and Clewer⁶ confirm the presence in chrysarobin of the substances found by Hesse, but claim to be able to establish the existence of other constituents in chrysarobin—a monomethyl-ether of dehydro-emodin-anthranol and ararobinol. They were unable, however, to find in chrysarobin the new compounds described by Jowett and Potter.

From the study of these recent chemical researches it is evident that chrysarobin contains very little chrysophanic acid, and that there is invariably present chrysophanol-anthranol and its methyl-ether, and, in all probability, emodinol; finally, other anthranol-like compounds are constituents of the commercial drug, but the exact nature of these new compounds is not as yet definitely established.

THEORIES CONCERNING THE ACTION OF CHRYSAROBIN ON THE SKIN.

Since the discovery was made that chrysarobin contained little or no chrysophanic acid, but rather a substance which could be obtained from chrysophanic acid by reduction or could be converted into chrysophanic acid by oxidation, a theory was proposed according to which the therapeutic action of chrysarobin was attributed to its power of abstracting oxygen from the skin.

In this manner the active proliferation of the epithelial cells in psoriasis and other skin diseases was assumed to come to a standstill as a result of the lack of oxygen. This hypothesis had some support given to it by the experimental work of Unna.⁷ He prepared chrysophanic acid from rhubarb and applied it in a case of psoriasis, but found it greatly inferior to chrysarobin in its therapeutic action. Since chrysophanic acid was shown to be of little therapeutic value, while its reduction product chrysarobin was a powerful remedy for the diseased skin, the reducing property of chrysarobin appeared to be very significant. It was also found that other powerful reducing agents, such as pyrogallol and resorcin, particularly the former, were also useful in psoriasis. Common to all of the reducing substances is their rapid oxidation in alkaline solution.

Opposed to the theory that the beneficial results of reducing substances in psoriasis were due to the abstraction of oxygen was the fact that there existed reducing agents more powerful than chrysa-

robin which exerted no favorable influence on this disease. Reduced dyestuffs, for instance, were found to be of little value. It came to be believed, therefore, that the reducing property of chrysarobin was not alone responsible for its therapeutic action.

In a recent paper,⁸ Unna has carefully analyzed the theory of the reducing action of chrysarobin. He is skeptical in regard to the possibility of chrysarobin producing its beneficial results in psoriasis through its action as a reducing agent. If the curative effect of chrysarobin depended only on its reducing properties, then the leuco-product of methylene blue, which is a product of reduction and possesses reducing power, should also be a useful remedy in psoriasis, which, however, was not observed. Thus, according to Unna, the process of oxidation of chrysarobin in the skin was not the cause of its therapeutic effect. The products of the oxidation of chrysarobin—chrysophanic acid and analogous substances—were likewise not responsible for the favorable action on the skin. And so Unna arrived at the conclusion that in spite of the work done on this subject, the true nature of the chrysarobin action on the skin was not yet understood.

REDUCING ACTION OF CHRYSAROBIN.

We have carried out a series of investigations which were designed to shed illumination upon the action of chrysarobin on the skin. Difficulties arise in studying the resultant changes in the chrysarobin, for this powder is not a definite chemical compound, but a mixture of a number of substances as yet but little known. Moreover, a chemical union takes place between chrysarobin and certain elements of the skin, but it is impossible to isolate the product of this interaction.

We thought it desirable to repeat first the experiments described by Unna, concerning the therapeutic action of chrysophanic acid. Chrysophanic acid was obtained by us by an aerial oxidation of chrysarobin in alkaline suspension. A 5% ointment of chrysophanic acid in vaseline was then tried in psoriasis. The patients were under observation for several weeks; the skin became slightly stained, and there was some little improvement, but the effect was strikingly inferior to the action of chrysarobin. We are therefore able to confirm the observations of Unna and others. An oxidized chrysarobin, or, in other words, *the medicament deprived of its reducing properties, is at the same time robbed of its curative effect on the lesions of psoriasis.* That chrysarobin is capable of abstracting oxygen from chemical compounds is clearly demonstrated in test-

tube experiments. For instance, chrysarobin reduces an ammoniacal solution of silver nitrate.

We found also that chrysarobin reduces warm potassium permanganate solution, if acidified with sulphuric acid. The same was observed under certain conditions with chrysophanic acid, but there is a distinct measurable difference between the reducing power of the latter and of chrysarobin.

Based on this difference in reducing properties, we were able to devise a rapid method of differentiation between chrysarobin and its oxidized derivative, chrysophanic acid. This method is of special value, if only small quantities are available for chemical identification. The method is as follows:

A solution of chrysarobin is prepared by dissolving 0.1 gr. of the drug in 250 cc. glacial acetic acid. Ten cc. of the solution are measured with a pipette and placed in a 200 cc. Ehrlenmyer flask, to which 15 cc. of concentrated sulphuric acid are added. The warm mixture is titrated immediately with $\frac{n}{20}$ potassium permanganate solution, until a distinct pinkish coloration persists for 30 seconds. Below are the results of titration of chrysarobin (Merck Co. grade) and chrysophanic acid prepared by us:

	Chrysarobin, cc. of Potass. Permang. sol.	Chrysophanic acid, cc. of Potass. Permang. sol.
First titration	12.40	8.30
Second titration	12.35	8.15
Third titration	12.40	8.35
Fourth titration	12.25	8.25

From these figures it can be seen that the method gives quite accurate results, and that chrysophanic acid requires for oxidation less $\frac{n}{20}$ potassium permanganate solution. The oxygen capacity of chrysarobin is over 30 per cent. greater than that of chrysophanic acid.

An interesting demonstration in regard to the capacity of chrysarobin for oxygen is the following experiment: A certain quantity of chrysarobin is suspended in a bottle filled with a 10 per cent. sodium hydrate solution. A strong current of air is passed through the alkaline suspension; under the influence of contact with the air the chrysarobin slowly goes into solution, the latter gradually taking on a deeper and deeper reddish color. This change in color is caused by the absorption of oxygen of the air and the formation of

products of oxidation of chrysarobin. This experiment was continued for ten hours, and even after that time oxygen could still be absorbed. Every hour a part of the solution was removed and placed in a separate flask. These samples were acidified, thus precipitating the products of oxidation of the chrysarobin, and were then washed and dried. It was thus possible to demonstrate that chrysarobin, through the process of oxidation, was changed gradually to a dark yellow, orange, and finally reddish-brown substance.

The above experiments with chrysarobin in the test-tube clearly demonstrate the fact that chrysarobin is capable of a slow and steady abstraction of oxygen from chemical bodies where loosely combined oxygen is available.

We wish to emphasize the fact, however, that chrysarobin is a substance which is oxidized only under certain definite conditions. This is what distinguishes chrysarobin from other reducing agents. Chrysarobin powder was exposed by us on many occasions to the prolonged action of air and light. No change in color or other properties was noticed. Even when suspended in distilled water and incubated at body temperature for several weeks, no change took place.

From our experience with chrysarobin powder, we are able to state that the oxygen of the air has little oxidizing influence on the drug at ordinary or even at body temperature; chrysarobin in ointment practically undergoes no oxidation. The oxidation of chrysarobin in alkaline solutions, however, is very marked. From the experiment described above, it can be seen that complete oxidation of chrysarobin in alkaline solution, when a strong current of air is driven through, requires several hours. A complete oxidation of chrysarobin in an alkaline solution, without agitating the air current, would probably take several days.

The therapeutic effect on the skin of chrysarobin in an ointment containing alkaline substances is considerably diminished, owing to the fact that the chrysarobin is gradually oxidized to chrysophanic acid or to intermediary products. To determine the latter fact, chrysarobin was incorporated in an ointment containing a small amount of sodium hydrate solution. The ointment had at the beginning the usual yellowish color, but soon turned blue on the surface. After several days the entire ointment appeared very dark. The therapeutic effect was greatly inferior to the usual neutral ointment of chrysarobin. In order to secure the full therapeutic effect of chrysarobin, conditions must be such that the oxidation of the medicament should result from the interaction between the drug and the skin. The efficiency of chrysarobin as a reducing

agent in its effect on the skin is increased by reason of its non-oxidizability when exposed to air.

In this respect chrysarobin is superior to many other reducing agents. Aldehydes or leuco-compounds of dyes are readily oxidized by the oxygen of the atmosphere before they are in a position to exert an action on the skin. A number of aldehydes were tried by us in psoriasis, without exerting any favorable influence on the lesions.

The nature of the products of oxidation of remedies which are suggested for use on the skin is important. Aldehydes are oxidized to the organic acids which might be irritating to the skin. The product of oxidation of chrysarobin is chrysophanic acid, and this is not an organic acid, but an anthrachinon which is practically devoid of any of the properties or characteristics of acids. In fact, we know that chrysophanic acid applied to the skin causes practically no irritation. Of the known reducing remedies for the skin, chrysarobin possesses the most advantageous properties.

Pyrogallol and resorcin are reducing substances. They are, like chrysarobin, oxidized in alkaline solutions, but much more rapidly and with greater facility. The pyrogallol ointment darkens quickly as a result of oxidation due to exposure to the air, and its therapeutic action is thus greatly diminished when applied to the skin.

THE MANNER OF OXIDATION OF CHRYSAROBIN ON THE SKIN

It is a familiar observation that chrysarobin, applied to the skin, causes the skin to be stained with a characteristic reddish-brown color. This phenomenon was explained on the grounds that the stain was due to oxidized chrysarobin, i.e., chrysophanic acid. Since the separation of chrysarobin derivatives, which have actually reacted with the skin, cannot be accomplished, as will be seen by our experiments subsequently to be described, we endeavored to devise a method of study of the changed chrysarobin *in vitro*.

While chrysarobin and allied substances were under study in our laboratory, in regard to their germicidal properties,⁹ it was observed that a characteristic change took place in the color of the culture media in which a derivative of chrysarobin was suspended. The change of the drug from light yellow to the reddish-brown chrysophanic acid tint, much like the chrysarobin stain on the skin, could be seen especially well when experimenting with a new derivative of chrysarobin which was prepared by us. This substance is called, for the sake of convenience in this paper, derivative N. This

substance appeared to us especially suitable for the following experiments, in view of the fact that the change from the original substance to chrysophanic acid was always much more striking than in the case of chrysarobin.

The chemical nature of the derivative N is similar to chrysarobin, and therefore the interpretation of the results with this derivative can safely be applied to chrysarobin. In a number of experiments we satisfied ourselves that this is true by performing the experiments with both chrysarobin and derivative N. The results were the same, except that those of derivative N were more pronounced.

The culture media to which chrysarobin was added contained beef extract, peptone, sodium chloride, agar and water.

The medicament was separated from the culture media and subjected to analysis. It looked like an oxidized chrysarobin, but on boiling it with glacial acetic acid, the greater part of it went in solution and was recovered then in a purer state, having the appearance and properties of chrysarobin. A small residue of deep red color was left behind, being insoluble in acetic acid. This residue was no longer chrysarobin, inasmuch as chrysarobin is soluble in glacial acetic acid; nor was it the product usually designated chrysophanic acid, because only a small fraction of it went into solution in alkali, and chrysophanic acid is known to be soluble in alkali. We are inclined to believe that the above-mentioned deep red residue is a product of far advanced oxidation of chrysarobin, possibly combined with some of the constituents of the culture media.

The fact should be mentioned that the culture media were neutral and the oxidation of chrysarobin derivatives was in no way due to oxidation through exposure to the air in the presence of an alkali. That the oxidation of the drug occurred entirely at the expense of some substance in the culture media was further proved in an experiment in which the culture media with chrysarobin derivatives were placed in a Novy jar, filled with pure hydrogen gas, and then incubated at 37° C. for 24 hours. The characteristic change in the color of the drug or, in other words, the staining of the medium, took place with the same degree of intensity in this atmosphere, which was completely free of oxygen. This experiment was repeated several times with the same result. Inasmuch as the culture medium contained protein-like substances, it was of interest to us to study the action of certain nitrogenous and organic substances on chrysarobin or its derivatives. The only method of determining changes was to watch the alteration in the color of the drug, after placing

it in contact with various substances for three or more days, at 37° C. Such a method of experimentation appeared to us to be most akin to the processes observed on the skin when chrysarobin was applied. In fact, what one sees on the skin is a characteristic change in the color of the drug.

The procedure which we adopted was to suspend twenty milligrams of chrysarobin in a small flask containing a solution of the substance under investigation and about 50 cc. of distilled water. A few drops of a weak solution of mercuric chloride were added to keep the flask sterile. A control flask contained the same amount of chrysarobin, 50 cc. of distilled water, and a few drops of mercuric chloride. The flasks were incubated for three or more days, at 37° C. If a certain chemical substance caused oxidation of the drug, it was easily detected by comparing the color of chrysarobin with that of the control flasks.

In addition to observing the influence of the protein ingredients of culture media on chrysarobin, the same experiment was carried out with psoriasis scales. Such scales were thoroughly washed with water, alcohol and ether, to free them from dirt, fat and soluble substances. Repeated analyses of such scales showed that they consisted of almost pure protein. The scales suspended in distilled water in the manner described changed the color of chrysarobin in a striking degree. From the dark brown substance obtained as a result of this experiment, a powder could be extracted which doubtless represents an advanced oxidation product of some of the chrysarobin constituents. The foregoing experiment was further carried out in an atmosphere of hydrogen and the oxidation of chrysarobin was demonstrated to take place equally well as in the presence of air oxygen.

A number of experiments were made to observe the interaction between chrysarobin and blood serum, casein and peptone. The oxidation of chrysarobin and its light yellow derivative N was as strong as that which resulted from contact with scales.

It having been shown that simple proteins oxidize chrysarobin, we determined to try the cleavage products of proteins. We found that amino-acids influenced chrysarobin markedly, especially glycocoll, which is chemically an amino-acetic acid. The light yellow derivative N of chrysarobin was converted by glycocoll, after several days' incubation, into a very dark brown chrysophanic acid-like substance. Substances containing amino-radicals were found generally to exert a strong oxidizing influence upon chrysarobin. Urea likewise possessed such a power.

The following table gives a list of chemical substances whose action upon chrysarobin was studied by us:

Name of Chemical Substance	Chemical Formula	Oxidation of Chrysarobin or Derivative N.
Psoriasis scales		Very marked oxidation
Horse serum		" " "
Casein		" " "
Peptone		" " "
Glycocoll	amido-acetic acid	" " "
Aspartic acid	amido-succinic acid	Marked oxidation
Urea		Very marked oxidation
Sodium tartrate		Marked oxidation
Benzidine	di-amido-diphenyl	" "
Ammonium acetate		" "
Sodium acetate		" "
Hippuric acid	benzoyl-glycocoll	" "
Saccharin	benzoyl-sulfinid	" "
Inulin	poly-saccharide	Very marked oxidation
Dextrose		" " "
Tartaric acid	dioxy-succinic acid	Oxidation
Lactic acid	oxy-propionic acid	"
Sulphanilic acid	para-amido-benzol-sulphonic acid	"
Acetamid		"
Oxalic acid	COOH. COOH.	No oxidation
Carbolic acid		" "
Ethyl alcohol		" "
Benzoic acid	C_6H_5 COOH.	" "
Benzol		" "
Petroleum ether		" "
Xylene		" "
Acetic acid		" "

The examination of the above table suggests that *proteins and their cleavage products possess the faculty of oxidizing chrysarobin*. The amino group generally is an important factor in this reaction. Certain other classes of organic substances such as phenols, hydrocarbons, organic acids, etc., do not exert such an oxidizing influence.

In addition to the amino groups, another active class capable of oxidizing chrysarobin was discovered in the hydroxyl group of the secondary alcoholic type, as exemplified, for instance, in lactic acid or in dextrose. Chrysarobin is also influenced by inorganic salt solutions in which a strong base is combined with a weak acid radical, as, for instance, sodium acetate or potassium oxalate solutions. Such solutions have, as is well known, a slight alkaline reaction.

A very interesting phenomenon was found in *the inhibitive influence of mineral acids upon the oxidizing action of proteins on chrysarobin and its derivatives*. The degree of inhibition was pro-

portional to the amount of mineral acid in a given solution. The concentration of hydrogen ions was of primary importance. Thus, organic acids in which dissociation in ions is comparatively small did not cause any noticeable inhibition of oxidation. For instance, acetic acid inhibits the oxidation of chrysarobin only when used in considerable concentration. We have previously stated that chrysarobin, or its derivative N, suspended with scales of psoriasis and incubated at 37°C ., undergoes oxidation, its color changing to a very dark brown. *If to this suspension is added diluted hydrochloric acid or sulphuric acid or a solution of any other strong acid, the color of chrysarobin does not change at all.* The same inhibitive action of acids was observed in experiments with chrysarobin and glycocoll and other substances. The inhibition is accomplished by minute amounts of mineral acids. The degree of inhibition is proportionate to the amount of mineral acids added; this is shown in the following experiment:

A small amount of scales was suspended with chrysarobin derivative N in 50 cc. of water, a few drops of mercuric chloride added for preservation, and incubated for several days at a temperature of 37°C .

Number of the flask.	Amount of chrysarobin suspended.	cc. of 0.5% HCl solution.	Degree of inhibition of oxidation.
20	0.020 gr.	2.00	Complete.
19	0.020 "	1.00	Decreasing inhibition.
18	0.020 "	0.7	
17	0.020 "	0.5	
16	0.020 "	0.4	
15	0.020 "	0.3	
14	0.020 "	0.2	No inhibition.
13	0.020 "	0.1	

From the above table it can be seen that 2 cc. of 0.5% hydrochloric acid solution, added to 50 cc. of a watery suspension of 0.020 gr. chrysarobin, completely prevents the oxidation. In other words, 0.010 of pure hydrochloric gas, or a concentration amounting to 0.02%, is sufficient to inhibit the oxidation of 0.02 gr. chrysarobin. Smaller amounts of hydrochloric acid are partially inhibitory, and a concentration of about 0.001% of acid no longer prevents oxidation.

To summarize the experiments relating to the oxidizability of chrysarobin and its derivative N, we may say that chrysarobin is oxidized by the oxygen of the air only in alkaline suspension; in neutral suspension the air has no influence at all upon chrysarobin. Oxidation of chrysarobin takes place when it is brought in contact with proteins or their cleavage products; also with amino-com-

pounds and organic compounds containing one or more secondary hydroxyl groups. Oxidation is prevented by mineral acids.

We have freely used in this chapter the expression "oxidation of chrysarobin," although our experiments do not offer direct proof that chrysarobin is oxidized as a result of contact with proteins and other chemical bodies. What we have observed is a pronounced change in the color of the drug. The change is very similar to that observed on the skin. Chrysarobin, after contact with protein, presents the appearance of its oxidized product, chrysophanic acid. However, the investigation of this oxidized product shows that the whole drug is not modified, but only a part thereof. Our experiments thus far are not conclusive as regards the nature of this end product of chrysarobin. From the experiments performed, it appears that proteins, and especially their amido-constituents, are chiefly responsible for the oxidation of chrysarobin. In what exact manner this oxidation represented by the color change is accomplished, it is impossible to state at the present stage of our studies, but the importance of the process is apparent. The oxidation of chrysarobin in the presence of proteins or amido-bodies involves a reduction of these substances. We have demonstrated that the oxygen is derived from these substances, for in some of our experiments the oxygen of the air was entirely excluded.

The oxidation of chrysarobin in the presence of certain organic bodies undoubtedly effects a pronounced change in the contact substance. From this point of view the testing out of chrysarobin against different classes of substances is of importance. While it is well nigh impossible to determine the action of chrysarobin upon certain chemical bodies, the oxidation or change in the color of chrysarobin due to contact with the substances in question is a sure sign of chemical action.

AFFINITY OF CHRYSAROBIN FOR PROTEINS OF THE SKIN.

Ever since it was observed that chrysarobin could be oxidized to chrysophanic acid, the primary cause of the therapeutic action of this drug upon the skin was ascribed to its reducing properties. Little attention was given to the solution of the question of the source of oxygen or to the manner of its abstraction from the skin. The query presents itself: Are there any other properties of chrysarobin which may shed light upon the mechanism of oxygen abstraction from the skin? An important phenomenon to which attention has not hitherto been directed is the remarkable affinity of chrysarobin for the keratins of the skin.

The following experiment is of interest in this connection: An ointment of chrysarobin was applied to the shaven skin of a rabbit for several days. The ointment employed was weak enough to avoid any inflammation, and the skin was found at the end of several days stained in the same manner as is usually observed after the use of chrysarobin. A stained area of the skin was excised and subjected to the action of different solvents of chrysarobin; benzol, toluol, chloroform and glacial acetic acid were used, both cold and at boiling temperature, to dissolve the stain from the skin. It was possible, however, to dissolve only some of the unused ointment, the stain itself remaining fixed and unalterable. We call special attention to the use of glacial acetic acid, which is an excellent solvent for chrysarobin and most efficient for the decolorization of stains because it can be heated to much higher temperature than other solvents. Furthermore, glacial acetic acid is not destructive to keratins at boiling temperature, but hardens them. Owing to these qualities, glacial acetic acid was particularly serviceable. The stained skin of the rabbit was boiled several times in acetic acid, fresh acid being used for each boiling process. Even such treatment did not break up the combination of chrysarobin with the skin. Boiling with 10% solution of caustic soda likewise failed to separate the drug from the skin. The soda solution remained colorless, an indication of complete absence of free drug. The same strong affinity of chrysarobin for keratin was demonstrated by experiments *in vitro*.

Scales from psoriasis patients were purified in the same way as described above. They were suspended with chrysarobin in 50 cc. of distilled water and incubated at 37° C. After about three to four days, the chrysarobin was found oxidized, and the scales were stained in a manner characteristic for the living skin. For the purpose of obtaining a clear picture of the staining, scales were first freed from unchanged chrysarobin by boiling with glacial acetic acid. When washed and suspended in water they exhibited a beautiful deep mahogany stain. The stain could not be removed by any known solvent; it completely retained its coloration after prolonged boiling with glacial acetic acid. Taking into consideration the fact that both chrysarobin and scales were not in solution, but merely in suspension, *the exceptional affinity of the drug for keratins of the skin may be comprehended.*

The staining of the scales can be entirely prevented by the addition of mineral acids to the suspension. Quantitatively, the inhibition of staining depends on two factors, the concentration of hydro-

gen ions on the one hand and the amount of protein substance or, in this case, scales, on the other. If the inhibition in a given hydrogen ion concentration is A , it will become weaker and equal $\frac{A}{2}$ if the amount of scales is doubled. It was previously shown that inhibition of oxidation of chrysarobin, and likewise the staining of scales, is proportionate to the concentration of hydrogen ions. To this we may now add that the inhibition is inversely proportionate to the amount by weight of scales. It appears that *the inhibition of oxidation of the staining is due to the action of acids, not upon the chrysarobin, but upon the proteins or other oxidizing substances.*

It was thought profitable to determine the affinity of chrysarobin for the proteins of the skin, as compared with the aniline stains ordinarily employed in the laboratory. The following technique was used:

A small amount of scales was suspended in a watery solution of certain dyes, 0.02 gr. taken, and incubated for a week at 37° C. The stained scales were then washed with distilled water and boiled with glacial acetic acid, fresh amounts of acid being used for each boiling. After washing the scales again with distilled water, they appeared in most instances completely decolorized. The results obtained are as follows:

Name of Dyes.	Number of times boiled with glacial acetic acid.	Intensity of staining after treatment.
Chrysarobin	10 times	Complete staining.
Derivative N	10 "	Complete staining.
Methylene blue	7 "	No staining.
Gentian violet	7 "	No staining.
Eosin w.	3 "	No staining.
Thionin	7 "	Faint staining.
Eosin	10 "	Very weak staining.
Methylene green	10 "	No staining.
Fuchsin	10 "	Weak staining.
Acid fuchsin	10 "	Complete staining.

From this table it will be seen that but one stain can be compared with chrysarobin in its resistance to decolorization, namely, acid fuchsin. Most of the stains apparently do not enter into chemical combination with the scales, as the union is easily broken up by glacial acetic acid. It should be remarked that chrysarobin being insoluble in water, was applied in suspension, whereas the aniline dyes were in complete solution. *It is thus seen that the affinity of chrysarobin for the skin is greater than that of the aniline dyes. The combination of chrysarobin with keratin is so firm that it must be considered as a chemical affinity rather than a physical union.*

Scales were further suspended in water and incubated together with the product of oxidation of chrysarobin, namely, with chrysophanic acid. The staining was comparatively weak and appeared yellow in color instead of the brownish-red tint produced by chrysarobin.

This suggests that a firm combination of chrysarobin with the skin is accomplished while the drug is undergoing oxidation at the expense of the proteins.

THE DEPTH OF PENETRATION OF CHRYSAROBIN IN THE SKIN.

It is a well known clinical observation that the degree of therapeutic effect of chrysarobin in psoriasis is, in a general way, proportionate to the intensity of the staining of the skin surrounding the patches.

The characteristic mahogany-colored stain is resident largely in the horny layer; when this layer is exfoliated the staining disappears.

In order to determine the depth of penetration of the drug, we applied daily a 1% ointment of derivative N, a product of chrysarobin, to the shaven abdomen of a rabbit for four days. At the end of this time the characteristic stain was present. The animal was then killed and sections of the skin excised for microscopic study. Frozen sections were made and the skin studied both in stained and unstained sections. Under low power one sees at once the sharply margined horny layer, exhibiting the brownish-red stain of the oxidized medicament. Under higher power this coloration is seen to be due to myriads of closely crowded, minute granules of the medicament. But the action of the drug is not limited to the horny stratum; granules are seen scattered in the deeper layers of the epidermis, and are seen here and there among the leucocytes in the corium; grouped masses are also observed about the hair follicles in the corium. It is probable that the drug in the latter areas is carried in, not only through the follicular openings, but also through transference by leucocytes. An intense outpouring of leucocytes from the vessels takes place as a result of the inflammatory reaction occasioned by the medicament. It is thus seen that while the greater part of chrysarobin is deposited in the horny layer, that some of the drug penetrates into the deeper epithelial cells, and even into the corium.

DISCUSSION.

Unna, in discussing the action of chrysarobin upon the skin,¹⁰ mentions three possibilities: (1) Chrysarobin may act *as such* upon the skin, by combining with the horny layer in some way; (2) the

process of oxidation, which Lieberman made the basis of his theory, is the essential point in the therapeutic effect; and (3) that not the original substance and not the process of oxidation, but *the final product of the latter*, forms the principle of the therapeutic effect. After considering these three theories and the objections to them, Unna concludes that "we do not know the true nature of the chrysarobin effect."

The experiments carried out by us appear to throw some light upon the action of chrysarobin upon the skin. We would interpret the mode of action as follows: Chrysarobin, when applied to the skin, exhibits a powerful affinity for the proteins of the cutaneous tissues, particularly the keratins of the superficial strata. A chemical union takes place, and either simultaneously or subsequently chrysarobin extracts oxygen from certain elements of the skin, thereby becoming oxidized and taking on the brownish-red color of chrysophanic acid. The bulk of the medicament remaining in the horny layer, gives to this stratum the characteristic stain so familiar to clinicians. It has been shown by Unna and by us that the oxidized products of chrysarobin are in large part deprived of therapeutic value. It would appear that the beneficial effect in psoriasis is produced by abstraction of oxygen after an intimate union of the medicament with the skin has taken place. Unna was puzzled in the acceptance of the theory of the reducing action of chrysarobin, in explanation of its therapeutic effect, by reason of the failure of other well-known reducing substances to act in the same manner.

There are, however, important properties exhibited by chrysarobin which other reducing substances do not appear to possess. In some experiments with pyrogallie acid, which are not detailed in this paper, we found that this substance has likewise a strong affinity for the skin. It has the disadvantage, however, that it is readily oxidized in solution on exposure to the air, and more slowly when incorporated in ointments. The oxidation of pyrogallie acid does not therefore invariably take place at the expense of the proteins of the skin, as occurs with chrysarobin. Pyrogallie acid is probably second in point of efficiency in the treatment of psoriasis. The three important properties of chrysarobin may be set forth as follows: (1) Chrysarobin is not readily oxidized by exposure to air and light either in the dry or moist state; its entire reducing strength is therefore preserved; (2) chrysarobin has a marked affinity for certain proteins of the skin with which it enters into a remarkably firm chemical combination; (3) chrysarobin has, as has long been known, strong reducing properties. To our mind, these qualities

make chrysarobin more efficient than other reducing agents, and have caused it to become clinically recognized as the premier medication in the treatment of psoriatic lesions.

In what manner chrysarobin brings about its remarkable and almost specific curative influence upon the lesions of psoriasis it is difficult to speak with positiveness. We know definitely that chrysarobin possesses the properties above described. When we discuss its intimate mode of action in psoriasis, we endeavor to interpret the proven facts, but we can offer no proof of the correctness of our interpretation.

Whatever the cause of psoriasis may be ultimately proven to be, we know that the pathological process in the skin is characterized by inflammatory changes in the papillary layer of the corium and by a great hyperplasia of the mucous and horny layer of the skin. No one has been able to determine whether the change in the epidermis or the corium is primary, if, indeed, the two processes are not synchronous. From sections studied by us, it would appear that chrysarobin may penetrate into the mucous layer and, indeed, far into the corium. We suggest that the chrysarobin becomes oxidized at the expense of certain cellular proteins, and that the abstraction of oxygen from these proteins in some way restrains cellular activity and proliferation. We grant that this is a hypothesis, but in view of the demonstrated facts, it does not appear to be an unreasonable one.

It might be contended that chrysarobin might produce its favorable action in psoriasis by extracting oxygen from the protein of microorganisms, and thus destroy their activity and life. We have carried out a series of experiments which, in fact, demonstrate that chrysarobin, or rather derivative N, can be oxidized by oxygen from the protein of staphylococci, both living and dead. For such experiments it was necessary to suspend the staphylococci in some non-nitrogenous medium such as salt solution, in order to exclude other possible sources of oxygen than the microorganisms themselves. As staphylococci die of inanition in salt solution in 48 hours, the effect of abstraction of oxygen on microorganismal life could not be definitely determined. In a previous communication, however, we presented data showing that both *in vitro* and *in vivo*, chrysarobin was incapable of destroying staphylococci.

SUMMARY AND CONCLUSIONS.

1. Chrysarobin is a complex substance, the chief effects of which are, in all probability, due to the contained chrysophanol-anthranol.

PLATE V.—To Illustrate Article on "A Study of the Biochemical Properties of Chrysarobin," by J. F. SCHAMBERG, M.D., G. W. RAIZISS, M.D., and J. A. KOLMER, M.D.

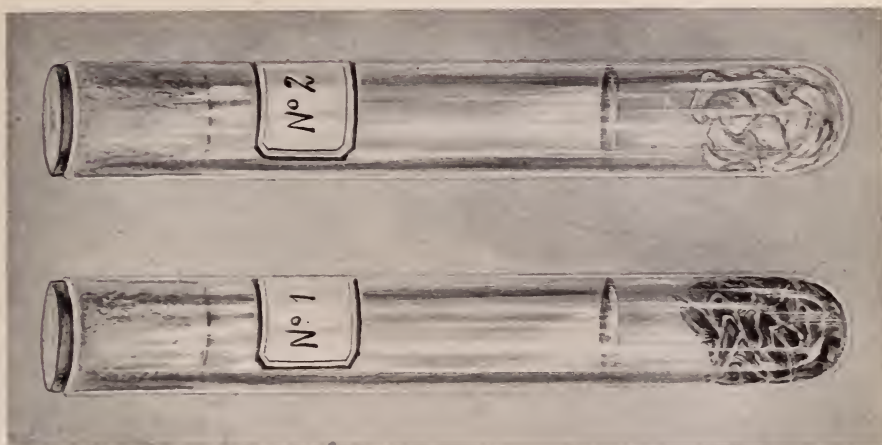


Fig. 1.

No. 1. Psoriasis scales with chrysarobin in distilled water, incubated for one week at 37° C. Scales are deeply stained by the drug and have a mahogany tint.

No. 2. Psoriasis scales under the same conditions plus hydrochloric acid. Scales are uncolored by reason of the inhibitory effect of the acid.

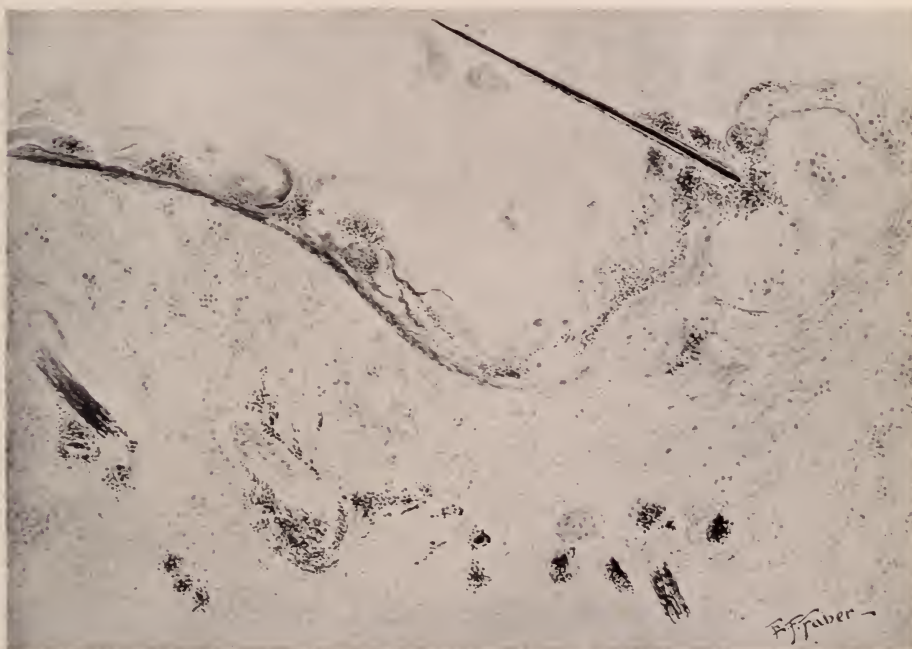


Fig. 2.

Section of skin of the abdomen of a rabbit to which there has been applied 4 daily inunctions of 1% ointment of Derivative N. Frozen section counter-stained with methylene blue. The horny layer shows numerous granules of Derivative N, and granules are seen here and there among the leucocytes in the deeper portions of the corium.

2. Chrysarobin is converted by oxidation into chrysophanic acid, which is, therapeutically, practically inert.

3. Chrysarobin is a stable substance not readily oxidized by exposure to air and light, either in the dry or moist state.

4. Chrysarobin in watery suspension oxidizes readily in the presence of alkalies.

5. Chrysarobin can be oxidized by the proteins of the skin, or, stated conversely, chrysarobin is capable of abstracting oxygen from the proteins of the skin.

6. The amino groups, representing cleavage products of proteins, appear to be an important factor in this reaction.

7. Mineral acids exert a strong inhibitory influence upon the oxidizing action of proteins on chrysarobin.

8. This influence is a quantitative one and appears to be due to the effect of the acid upon the proteins rather than upon the medicament.

9. The oxidizing influence of proteins on chrysarobin occurs equally well in a hydrogen atmosphere, thus excluding air as a possible source of the oxygen.

10. The oxidation of chrysarobin by the proteins of the skin is evidence of a chemical interaction between the two.

11. Chrysarobin possesses an exceptional affinity for the keratins of the skin. Scales placed in a watery suspension of the medicament become characteristically stained.

12. The chemical union between chrysarobin and scales is so firm that decolorization cannot be effected, even by repeated boiling in glacial acetic acid.

13. The chemical union of scales and chrysarobin is firmer than that of the aniline dyes, with the possible exception of acid fuchsin.

14. The combination of chrysarobin with the skin appears to be accomplished while the drug is undergoing oxidation at the expense of the proteins.

15. The staining of the skin after the application of chrysarobin is in large part due to oxidation of the drug in the horny layer. Some of the drug is, however, carried into the deeper layers of the epidermis, and even into the corium.

16. Chrysarobin, deprived of its reducing properties, is at the same time robbed of its therapeutic virtues.

17. The therapeutic effect on the skin of chrysarobin in an ointment containing an alkali is, under ordinary circumstances, considerably diminished.

18. The superiority of chrysarobin in psoriasis is in all proba-

bility due to three properties which it possesses: (1) Its resistance to oxidation on exposure to air; (2) its strong reducing action; and (3) its chemical affinity for and firm union with the proteins of the skin.

19. It is possible that the favorable influence of chrysarobin on psoriatic lesions is due to chemical union and abstraction of oxygen, resulting in a restraining influence upon the proliferative power of the epithelial cells.

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DISCUSSION

DR. ZEISLER said it was impossible for any of the members to discuss the biological work that Dr. Schamberg had reported in his paper. They could only admire it. The speaker said he had been favored by Dr. Schamberg with some samples of novorobin, the modification of chrysarobin, and after testing it he had become convinced that it was superior to the latter. He had employed it in about twenty-five cases.

The speaker said he hoped that Dr. Schamberg and his associates would continue their work, and that their perseverance would be rewarded by finding the true ætiology of psoriasis and its cure.

DR. GEORGE HENRY FOX said he could only express his sincere admiration of the immense amount of work done by Dr. Schamberg and his collaborators, which he felt sure would eventually prove of great value. In regard to novorobin, Dr. Fox said he had used it in a number of cases of psoriasis, applying it on one-half the body, with chrysarobin on the opposite half for the purpose of comparison. The results obtained were not always uniform. In some cases the results obtained from the novorobin were superior to those of the chrysarobin, while in others the newer remedy was apparently less effective. Still, the number of cases in which he had tried it was too small for positive deductions, and he hoped to give it a further trial.

There were probably but a few present, Dr. Fox said, who could recall when chrysarobin was first introduced to the profession. An English dermatologist had used it for ringworm, and by mistake it had been prescribed in a case of circinate psoriasis, with good results. The speaker said that he, together with the late Dr. Henry G. Piffard, were the first to give it a trial in this country, and the chrysarobin on the market at that time produced results which he had never been able to obtain from the more modern commercial product. In those days it often set up an intense dermatitis, but the method of extracting the drug was so expensive that the manufacturing chemists had probably devised some other way which had rendered it much less efficacious. Recently, Dr. Fox said,

he had had some prepared by extracting the chrysarobin with hot chloroform, producing a bright yellow powder and differing considerably in appearance from the ordinary commercial drug.

DR. HAZEN said, as he understood it, these patients showed a retention of nitrogen during the entire time they had the psoriasis. That being so, it seemed to him a question of mathematical calculation how long it would take for such a patient to become transformed into nitrogen! There was evidently something wrong somewhere.

DR. W. MONTGOMERY suggested that as much of the transitory nitrogen of the body existed as the amino radical in amino-acids, and that the amino radical was closely related to ammonia, which was volatile, might it not be possible that some of the transitory nitrogen might also be in a volatile combination, and so escape by the breath?

Patients having psoriasis were very often what one might call nitrogenous patients; that is to say, they were fleshy, heavy people in contradistinction to fat people. One had frequent occasion to admire the big, powerful muscles of psoriasis patients.

DR. BRONSON said he had been very much interested in this critical report made by Dr. Schamberg, and it seemed to him that the findings reflected a good deal of credit on the genius of Unna, who, without the benefit of such investigations, seemed, by deduction, to infer that chrysarobin exerted its beneficial effect on psoriasis through a process of de-oxidation. He attributed the improvement entirely to the well-known reducing effect of this drug. The speaker asked how this reduction theory would comport with the fact, often observed, that the best effects of chrysarobin occurred coincidently with the production of an erythematous dermatitis?

DR. CHARLES J. WHITE said he had had an opportunity of testing novorobin in psoriasis. He noticed that certain patients who were intolerant of chrysarobin could bear the novorobin; that some were benefited more by novorobin than by chrysarobin; and that in some instances, while the psoriasis cleared up under applications of the novorobin, the skin became eczematized *in situ*.

DR. POLLITZER, referring to the metabolic studies described by Dr. Schamberg, said that when he discussed this subject at the meeting of the Association a year ago, he made the statement that the results obtained were in absolute contradiction to what was known of metabolism. Here we had a patient weighing 40 kilos, giving a positive nitrogen-balance of over 400 grams in five months; this "retention," estimated in flesh, would amount to nearly twelve kilos—more than 25% of the patient's weight; but in spite of this, the patient, instead of gaining in weight during this time, actually lost. Such a finding, Dr. Pollitzer said, was so contradictory as to be incredible. The suggestion made that the nitrogen escaped as gas, or that the gain in proteid was exactly counterbalanced by a loss of water, could not be considered seriously. There was no foundation for either assumption.

The speaker said it was with great regret that he felt compelled to reiterate his conviction that some error had crept into the work of Dr. Schamberg and his associates; but the statement that a psoriatic could go on for months, and perhaps for years, storing up nitrogen without gaining indefinitely in weight, was in such conflict not only with the known laws of physiology, but even of the fundamental properties of matter, that he could not allow it to go unchallenged.

The speaker said that in view of his own belief in the parasitic origin of psoriasis, he was particularly pleased with the findings of the authors in connection with uric acid: they had satisfactorily demonstrated that there was no chemical basis for the assumption of any relation between gout and psoriasis.

Speaking of novorobin, Dr. Pollitzer said that through the kindness of Dr. Schamberg he had been able to use it in a dozen cases of psoriasis, and his

results, in general, had been very satisfactory, although he could not yet speak definitely on this point, as he had not used it for a sufficiently long period of time. The patients, however, were pleased with the preparation, which was cleanly and undoubtedly of value. In one instance a patient developed furuncles while using it.

In regard to the practical value of diet in psoriasis, the speaker said he hesitated to enter into this mooted question. It was astonishing, as Jadassohn has said, how different observers differed on this point the world over. During the past year he had put ten of his private patients suffering from psoriasis on a low nitrogen diet. They were intelligent people, who were willing to make a trial of the diet proposed, and he was perfectly satisfied that they did not eat any meats nor other animal products during this period, and peas and beans were also excluded. While these cases were not under constant observation, like Dr. Schamberg's hospital cases, they were certainly on a very low nitrogen diet. In only one of them was there even a moderate improvement; in three there were fresh outbreaks of psoriasis while they were on this low nitrogen diet; the remaining cases showed no particular change. His experience in regard to the effect of diet was not at all in harmony with that of Dr. Schamberg and some other observers.

In concluding, Dr. Pollitzer said he wished to express his appreciation of the work done by Dr. Schamberg and his collaborators in connection with estimations of the bactericidal value of certain insoluble chemicals. The new method they had devised and employed in their experiments had yielded some striking results and gave promise of great value in many directions.

Dr. Towle said the effect of certain forms of diet in psoriasis had sometimes, in his experience, been contradictory. Thus, he could recall two cases where fresh outbreaks were preceded by a carbohydrate diet and where improvement occurred after an animal diet.

Dr. MacKee said, that in his hands the results with novorobin did not come up to his expectations, although, as a whole, they were better than those obtained from the commercial chrysarobin. Furthermore, the novorobin did not stain, and lacked the objectionable features of chrysarobin. In the cases where he had given it a trial, he had followed the suggestion of Dr. George H. Fox, applying it on one side of the body, with chrysarobin, of like strength, on the opposite side. In one instance the use of a one per cent. preparation gave rise to a marked dermatitis, and in one case of dermatitis exfoliativa of a rather rebellious type, the patient made a complete recovery under a low nitrogen diet and the use of novorobin.

Dr. Schamberg, in closing, thought it was incumbent upon him to say something in regard to the physiological chemists who occupied such an important part in their research work. Dr. Ringer and Dr. Raiziss, his collaborators, were physiological chemists, whose work was regarded with confidence by their colleagues in this country. Dr. Ringer was Assistant Professor of Physiological Chemistry in the University of Pennsylvania. Both of these men were absolutely convinced of the accuracy of the work, and from a close observation of it, the speaker said that he felt likewise convinced that no errors in the analyses had been made and that the calculations were correct.

With regard to the difficulty of comprehending nitrogen retention without adequate gain in weight, Dr. Schamberg said that he thought this question had been satisfactorily discussed in the published communication on the subject. He again called attention to the fact that Bischoff and Voit fed a dog for 41 days on bread, during which time the animal lost an amount of protein equivalent to 3,717 grams of flesh, yet the total loss of body weight was only 531 grams; the difference was made up by the retention of water. As the animal's state of nutrition began to improve by the ingestion of 1,800 grams of meat per day,

the water was rapidly eliminated. On the first day of this diet the animal lost 310 grams in weight, and the urine alone contained 120 cc. more water than was ingested.

Furthermore, it had been shown that the quantity of protein retained need not be estimated as muscle tissue. It was a well-known fact that the cells of the body were of a gelatinous consistence and were capable of taking up a considerable amount of protein as such, which was dissolved in the tissue juices.

As to the possibility of an indefinite retention of nitrogen to which Dr. Hazen had called attention, it should be borne in mind that these patients were observed only during periods of psoriatic activity, and he was unable to speak authoritatively of the degree of nitrogen retention during periods of freedom from psoriasis. It was quite possible that there was a loss of nitrogen during these periods, as it would be difficult to conceive of storing up nitrogen year after year. Dr. Schamberg said that as the result of their researches he was convinced that a low nitrogen intake exerted a favorable effect on psoriasis, sometimes to the extent of virtual disappearance of the lesions. It was impossible, however, to duplicate in private practice the results achieved in the hospital. In the hospital these patients were kept under the strictest supervision, and the food and protein intake were carefully measured. Furthermore, if a patient not under such supervision took an excessive amount of carbohydrates, it was possible that that might have a sparing influence on the protein metabolism. Personally he felt quite convinced that even the most severe and rebellious cases of psoriasis, and perhaps allied conditions, when kept under proper hospital supervision and given not more than 5 gms. of nitrogen per day, would show a marked improvement and become amenable to local treatment.

Speaking of novorobin, Dr. Schamberg said he and his colleagues had met with considerable difficulty in its preparation, and the original product was not entirely satisfactory. They had now succeeded in obtaining a product from which they hoped to get the maximum therapeutic effect with a minimum of cutaneous reaction. The drug was stronger than chrysarobin, and should be used in one-fifth to one-third of the strength of the latter.

AN INSTANCE OF ASYMMETRICAL RAYNAUD'S DISEASE.*

By DOUGLASS W. MONTGOMERY, M.D.,

AND

GEORGE D. CULVER, M.D., San Francisco, Cal.

ACROPARÆSTHESIA, erythromelalgia and Raynaud's disease constitute a group of related affections in which many of the most striking symptoms occur on the skin. The chief bond of relationship between these diseases is their evident dependence on derangement of the nervous system controlling the

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 14-16, 1914.

blood vessels. In fact, the chief interest in the present case depends upon the opportunity it gave to observe a difference in blood pressure between the affected left upper extremity and the unaffected right. The blood pressure in the unaffected right upper extremity undoubtedly represented the general blood pressure, whereas that in the affected left upper extremity represented the aberrance. This aberrance undoubtedly was due to a difference in the calibre of the blood vessels, brought about by the derangement of the controlling vasomotor nerves. The history of the case runs as follows:

Mrs. F. S., a housewife, 47 years of age, consulted us Oct. 10, 1913, for a swelling of the fingers of the left hand, which she supported in her right in an attitude of extreme misery. She had suffered for more than a week so severely that sleep was almost impossible, nor could she allay the pain with ordinary analgesics. Every movement was an agony.

The fingers of her left hand were swollen and stiff, and the skin over them was stretched, obliterating the joint folds, and presenting a smooth, glistening, red surface. The volar surfaces of the terminal phalanges, including the tips, were grayish white and looked as if blistered, the appearance being that of a cleavage of the superficial from the deeper layers of the epidermis. The grayish-white appearance was limited to the terminal phalanges. Of all the digits, the thumb was the least affected. The nail beds were cyanosed. The hand was swollen and red with a tint of blue, and when the redness was pressed out, it returned slowly. There was no marbling or reddish blue mottling of the arm, nor of the general cutaneous surface. Besides intense pain there was also burning and itching in the fingers, and the whole arm ached.

The terminal phalanges, excepting that of the thumb, were insensitive to a superficial needle prick; deeper pricking caused pain similar to that produced by pressure. All these terminals were hypersensitive to pressure. Rough or smooth surfaces were indistinguishable to all of them, and with all of them the sensation for heat and cold was diminished. The terminal phalanx of the thumb was hypersensitive to a needle prick. Electric stimuli were not applied. The blood pressure was taken and it was found to be 10 mm. of mercury less on the affected left upper extremity than on the right. This finding is so interesting that its consideration will be taken up more in detail, later.

The patient's previous history contained a number of points of interest. Four years before, she had undergone an operation for gall stones, and four months subsequent to this there was an attack consisting of dead whiteness of the left thumb, followed by redness, coldness of the hand and swelling of all the left digits and tingling around the base of the nails, with itchiness of the tips. From this she recovered and the digits returned to normal. One year ago she had another and similar attack, and off and on since, has had like disturbances, though none were severe until the last attack. Until two years ago she lived in the northeastern part of California, and one member of the family, while living there, had malaria, though the patient herself, as far as she knows, never had this disease. She had several children, one of whom, a daughter, had exophthalmic goitre. The patient's menstruation was regular.

GENERAL CONDITION. When the patient first consulted us, her tongue was apparently normal, but the breath was very foul, and she had dizzy spells. There was evidence of gastropotosis, though

she did not complain of any gastro-intestinal disturbances. She looked extremely pale, and her hæmoglobin was about sixty per cent. Her pulse was 120, and very irregular in rhythm and volume. The left radial artery felt uneven to the finger and more rigid than the right, and it has retained these characteristics. There was a blowing systolic murmur, best heard in the aortic area, with an impure second sound in that area. There was no history of lues, and her blood serum gave a negative Wassermann. The attack did not occur in the course of a severe general disease, such as typhoid fever. There were no symptoms of scleroderma, and there was no history or symptoms of lead poisoning. There were no indications of either thrombosis or embolism, and the patient had not taken ergot, nor were there symptoms of ergotism. She had not used any bandage whatever on the fingers previous to the attack, nor had she employed carbolic acid, which, as is well known, may occasion a curious form of gangrene of the fingers. Cassirer mentions two instances in which a cervical rib was present as possibly accounting for the inequality of blood supply. No cervical rib was found in our case.

The patient was in easy enough circumstances, with nothing to do but her domestic duties. About sixteen years ago she suffered from hysteria, but there was no history of hysteria nor of exposure to cold immediately preceding any of the Raynaud attacks. As we shall see later, however, while under observation she suffered from moderate local asphyxia, both under psychic shock and exposure to cold. In Raynaud's disease exposure to cold is frequently found to precipitate an attack, but the weather during this patient's severest attack was particularly fine. There was no history of alcoholism or of asthma or of rheumatism in the patient's parents, and the patient herself did not use alcohol, nor was she rheumatic or melancholic or asthmatic, nor did she suffer from neuralgia or sciatica.

The course of the condition in the hand, as the symptoms gradually subsided, was interesting. Four days after first consulting us the swelling had increased, but there was much less pain. All the fingers were more swollen than the thumb, and toward the terminal phalanges they were dark red. There was purple congestion of the last two phalanges of the index finger. On its volar surface, beginning at the middle of the second phalanx, the congestion was purple, and over the pulp the discoloration was purplish-white, as if the epidermis were lifted in a blister, which, however, it was not, as there was no cavity or serum underneath it. The same condition

obtained to a lesser extent on the volar surfaces of all the other fingers except the thumb. Over the pulp of the ring finger the dusky white discoloration was irregular, but more sharply margined than when first seen. The skin of the fingers was stretched and glossy, and, though markedly swollen, did not pit, but became blanched on pressure, the redness returning slowly. All the fingers were extremely sensitive to the lightest pressure.

On October 17, one week after first seeing the patient, the tip of the little finger was blue-black, and looked as though a gangrænous process had begun. By this time there was much relief from the pain, and the swelling had decreased. A few days later the tip of the medius, as well as that of the minimus, became blue-black, but the other finger-tips had approached more nearly a normal appearance.

At the end of ten days the patient was fairly comfortable, and complained only of the extreme numbness and dead feeling of all the fingers except the thumb, which felt normal. As shown in the photograph, at this time there was still some swelling of the fingers in their entirety, and the pulp ends of the terminal phalanges of the medius and minimus were blue-black or of a dark slate color. These typically gangrænous areas were sharply margined and contracted, so as to destroy the contour of the finger ends, and to expose the under surface of the nails, and they felt like hardened masses, set in the softer, more normal tissue. The ends of the other finger-tips looked much more normal at this time than when the blisterlike appearance was present a few days before. Subsequent changes were along the line of decreased swelling in all the fingers, more mobility and much less discomfort, with more definite contraction and hardening of the gangrænous areas, which evolved in the extremely slow manner characteristic of Raynaud's disease; by the middle of April, six months after the attack, these tips were not yet shed.

About two months after beginning treatment she experienced a definite relapse, as far as the pain was concerned, owing to a psychic shock. In her presence her son fell, striking his head and remaining some time unconscious. The pain occasioned by this shock continued several days, but disappeared within twenty-four hours after resuming the calcium lactate treatment, of which more will be said later.

One day in December, the weather being quite cold and very damp, the left index and ring fingers became blue. The thumb remained normal and the two gangrænous finger-tips, that of the

medius and of the auricularus, were unaffected. The two affected fingers, in this instance, had the beautiful, pale, translucent appearance so often described; the nails, however, were almost black.

There can be no doubt of the diagnosis; the history of previous attacks of swelling and pain in the same hand; the definite history of syncope preceding the swelling and pain; the redness; the extreme pain with itchiness and burning; the non-pitting swelling with glossy smoothness of the skin; the deep blueness of the nails and the grayish-yellow patches on the volar surface of some of the digits, ending, in two of them, in dry gangrene of the tip; the suddenness and the slow subsidence of the attack, make too characteristic a picture to permit of any other conclusion than that we have here to do with Raynaud's disease.

One of the distinguishing characteristics between the necrosis of arterio-sclerosis and of Raynaud's disease is that in the latter the necrosis is very much less in extent than the area implicated in the vascular disturbance. In arterio-sclerosis the necrosis tends to grow progressively larger, whereas in Raynaud's disease the necrosis strikes the point or points of greatest vaso-motor disturbance, and the subsequent course of the attack is along the line of return to the normal and of demarcation of the irretrievably necrotic tissue, as took place in this case.

It is true that Raynaud designated the disease he described as being symmetrical gangrene, but he himself reported an asymmetrical case, and of late years many have been reported involving one extremity or one tip, such as the tip of the nose, or chin, or the end of the penis. The Raynaud symptoms may also occur in other situations on the general surface.

BEHAVIOR OF THE BLOOD PRESSURE. This case is especially interesting because of the difference of the blood pressure in the affected and unaffected arms. When first seen, on October 10, the patient's blood pressure in the right upper arm was 180 mm. of mercury (Faught), whereas in the left upper arm, which was the affected extremity, the pressure was 10 mm. less, or 170. October 12, the right arm pressure was 170 and the left arm 164. The day following, the right arm pressure was 166, the left 160. October 14, the right arm registered 164, the left 162. The next day the right registered 170, the left 166. October 16, the right registered 160, the left 156. The next day the right registered 154, the left 148, and two days after this, on October 20, the right and left each registered 154. Three days after this, both arms again registered

the same. Four days later the pressure was 156 in each arm. Again, in three days the pressure was equal, registering 146 in each arm. Five days later it was 150 in each arm, and whenever subsequently taken, both arms registered equal pressures. The gradual approach to equilibrium in the blood pressure was accompanied by a progressive decrease in pain and discomfort, and a more perfect demarcation of the gangrænous finger-tips.

We were able to demonstrate that the patient's general blood pressure was much above normal, for the blood pressure in the right upper arm, registering 180 mm. of mercury, may, we think, be taken as her general arterial pressure, whereas the pressure registered in her left upper arm, 170 mm. of mercury, indicated the modification of the pressure in the affected arm. The blood pressure in this arm was, however, only relatively, not absolutely, low, for it was 170 as against the physiological normal 120.

Blood pressure must be taken most carefully in order to obtain a true reading, and furthermore the normal varies with the individual, and even in the individual it varies at various times. The pressure was taken repeatedly and most carefully, and the mercurial, not the watch spring instrument was employed. Furthermore, the greatest difference of pressure was observed at the height of the local asphyxia, and it gradually subsided, and at the same time gradually approximated the pressure in the other arm as the local asphyxia subsided.

It must not be forgotten, however, that compression alone may bring about an alteration of blood pressure in these cases. Cassirer relates that in examining the blood pressure of the fingers in a patient with Raynaud's disease, he used Gaertner's tonometer. The circular compression of the instrument caused an artificial anæmia that was complete, and in which the blood pressure in the fingers sank to zero.¹ This condition lasted for a long time after taking off the ring and after relieving every cause of compression. We do not believe, however, that the compression of the instrument in our case influenced the blood pressure. It may be recalled that in this case there was an almost regular decrease from day to day in the blood pressure, in both the right and left arm, and, more interesting still, there was a gradual approximation of this pressure until in a few days the pressures became equal and have remained so. This we do not think would have occurred had the decrease of blood pressure been due to compression by the instrument.

¹ Die Vaso-motor Trophischen Neurosen. R. Cassirer, 1912, p. 344.

Cassirer gives the history of a case reported by Zeller, that in some of its symptoms may instructively be compared with the present case. The patient was an anæmic girl of twenty years of age, who, after attacks of pain, paræsthesias, and vasomotor disturbances in the right hand, finally got gangræne of all the fingers of the right hand as far as the middle of the second phalanx, where they had to be amputated. The healing process was very slow. The pulse of the right arm arteries was very much weaker than of the left. This phenomenon could not be explained, but it was supposed it might be due either to a continuous spasmodic contraction of the blood vessels or to a congenital narrowness of their lumina. There was neither pain nor hardness of these vessels, and the sphygmographic curve was normal. Interesting to relate, however, the arteries at the time of amputation did not spurt, and there was abundant parenchymatous bleeding.² These observations of the smallness of the pulse in the affected extremity, the failure of these arteries to spurt, and the abundant parenchymatous bleeding are, we think, of the highest interest when taken together with the asymmetrically lower pressure in the affected arm in our case. In our case we were not able by palpation to distinguish any distinct difference in tension or size between the arteries in the two arms. As before mentioned, the right radial artery was uneven and rigid. If, however, the blood pressure had been taken in Zeller's case, it probably would have been found lower in the affected arm than in the unaffected one. A prolonged spasmodic contraction of the axillary artery, before it becomes the brachial, might be accepted as the reason for the lower pressure in our case, and for the smallness of the pulse and for the failure of the arteries to spurt in Zeller's case. Physiologically, the arteries and veins are held in a state of tension, so hugging their fluid contents. This blood vessel pressure is not constant, but is continually rising and falling, producing a curve that is much more prolonged than the pulse curve. It may be that it is this vascular contraction, carried to a pathological extent, that is one of the features of Raynaud's disease, possibly its chief feature.

THE CHANGE IN THE BEHAVIOR OF THE EPITHELIAL STRUCTURES IN THE AFFECTED AREA. About forty days after the severe congestive attack above described, that ended in gangræne, an interesting change was noticed in the surface of the skin. The accompanying schematic drawing serves to illustrate it. The whole skin distal to the red line that crosses the thumb and palm had become slightly

² Loc. cit.

infiltrated, yellowish in color, fatty looking, desquamating and itchy. This change was especially marked on the volar surface. The tips of the medius and minimus, which were gangrænous, did not, of course, exhibit this change, but the tips of the index and the annularis were occupied by well circumscribed, thick, horny discs. These symptoms were undoubtedly a consequence of the Raynaud attack, for there was no history of their being present before; it cleared up afterward, and it was most marked where the Raynaud attack was severest, at the tip of the fingers, and gradually faded away farther back on the hand. There were only two circumstances that could be held responsible for this change in the appearance of the skin: the excess of carbon dioxide gas and the watery condition, the œdema of the tissues. These two factors and their consequences on the skin were present in as clear cut a manner as if done as a set experiment.

THE CARBON DIOXIDE EXCESS IN RAYNAUD'S DISEASE. That there is a carbon dioxide excess in the affected area in Raynaud's disease is shown by the blue color which is its pathognomonic symptom. This carbon dioxide is an excrement, the result of the combustion, in the tissues, of the carbohydrates and fats, and to some extent, also, of the nitrogenous foods. Martin H. Fischer has shown that colloid substances in the presence of carbon dioxide take up an excess of water, and possibly the carbon dioxide in Raynaud's disease explains, in part at least, the œdema. The œdema in Raynaud's disease differs from ordinary œdema in that it does not pit. This would indicate that there is not alone an interstitial accumulation of serum, but also that the tissue fibres themselves swell. This non-pitting œdema would therefore substantiate Fischer's idea that colloid substances, as connective-tissue fibres, take up water in excess, in the presence of carbon dioxide in excess.

Carbon dioxide is an excrement that, by irritating the respiratory centre, causes its own elimination through the expired air of the lungs. The symptoms of suffocation are largely those of carbon dioxide ejection. It might easily be that much of the pain in Raynaud's disease is also due to the local effort to eject the carbon dioxide.

TREATMENT. Cushing has advised the application of a tourniquet employed daily. Our use of the blood pressure apparatus would act similarly, but not so energetically. In our case this pressure made no appreciable difference in the pain.³

It has also been advised to incise the skin during the asphyxia attack, and to apply Bier's suction apparatus to induce bleeding and

the escape of serum, to afford a vent for the carbon dioxide laden fluids.

A rather remarkable fact in the treatment was the good effect of the ice pack in relieving pain, quite contrary to what one would expect. Ice applications also acted well in a case reported by Southey.⁴

According to Loeb, we have to thank the normal calcium content of the blood that our skeletal muscles are not in continual rhythmical contraction.⁵ As in Raynaud's disease there is an increased irritability of the blood vessels, showing itself in excessive contraction and dilatation of their calibre, and as their changes of calibre are due to contraction of the smooth muscle fibres in the blood vessel walls, it was thought, as calcium lactate has such an effect on striped muscle, it might have a similar one in governing abnormal contraction of smooth muscle fibres. A prescription was therefore given containing:

R	Calci lactatis	50.00
	Elix. simp.	60.00
	Aq. ad.	300.00
M. Sig.	Two teaspoonfuls in a little water after meals, three times a day.	

While the patient was taking this, the pain subsided, the local asphyxia cleared up, the general blood pressure fell and the inequality of blood pressure between the two arms became equalized. As, however, this is the general course the attack would have taken any way, we cannot tell whether the calcium lactate had any influence.

During the attack brought on by the psychic disturbance, calcium lactate was again given. This attack was not severe, but here again it cannot be asserted that the mildness of the attack was due to the influence of the calcium salt, as it is unusual to have two severe attacks of Raynaud's disease within a short space of time.

DISCUSSION.

DR. HOWARD FOX said he was much interested in Dr. Montgomery's paper, as he had had the opportunity of observing several peculiar cases exhibiting the phenomena of Raynaud's disease. From his studies he became convinced that certain

³ *Jour. Nerv. and Mental Dis.*, xxix, p. 557. Quoted by Cassirer, Loc. cit.

⁴ *Clin. Soc. Trans.*, xvi, 1883. Quoted by Cassirer, *Die Vaso-motor-trophischen Neurosen*, 1912, p. 502.

⁵ *Innere Sekretion*. A. Biedl, 1913, p. 17.

cases classed as Raynaud's disease were in reality cases of peripheral syphilitic arteritis, which simply exhibited some or all of the phenomena originally described by Raynaud. From the study of a case, previously infected with syphilis, in which several fingers of one hand frequently became cold, livid and painful, Hutchinson suggested that syphilis of the peripheral vessels might be the cause of such symptoms. The speaker said that in two of his cases, where the symptoms were more or less asymmetrical, a syphilitic basis was perfectly evident. Cases of syphilis, exhibiting the phenomena of Raynaud's disease, had been reported by Raynaud, Schuster, Klotz, Fordyce, Jacoby and others.

DR. HARTZELL said we should not lose sight of the fact that every case which presented a local asphyxia, with some tendency to trophic disturbance, was not one of Raynaud's disease. Such a symptom-complex might be associated with erythematous lupus, and pointed to some toxin acting on the walls of the vessels.

These cases of asymmetrical Raynaud's disease, the speaker said, were difficult to explain. If the symptoms were due to a toxin in the blood, why should they be asymmetrical? In the cases of so-called chilblains the attacks lacked the paroxysmal type, which was one of the characteristics of Raynaud's disease. We should be careful in classifying under the name of Raynaud's disease all these cases in which we have this condition of acro-asphyxia. While we might have some of the symptoms of Raynaud's disease in these cases of syphilitic endarteritis, it did not seem to him that they could be properly classified as Raynaud's disease, which implied a progressive narrowing of the vessels.

DR. GRINDON said he was inclined to agree with the remarks made by Dr. Howard Fox. Some time ago he saw a man suffering from pre-senility and presenting a typical, complete Raynaud's syndrome, the symptoms being limited to the right hand. There was the history of an old syphilitic infection and the Wassermann was strongly positive. There was marked improvement under appropriate treatment. He could also recall two similar cases, in one of which there was marked improvement and in the other a complete disappearance of the symptoms under anti-syphilitic treatment.

DR. RAVOGLI thought it was very difficult to differentiate between Raynaud's disease and endarteritis syphilitica. He recalled a case at the City Hospital, a colored laundress, with gangrene of one foot extending centrally to the metatarsal bones. The Wassermann was positive. She was given salvarsan intravenously and very promptly the gangrene began to slough off and within a few weeks the patient was able to go about. In another case, a man from Kentucky, with unilateral gangrene of the foot, due to endarteritis and thrombus, in spite of a negative Wassermann, he was given salvarsan, and he made a relatively prompt recovery.

DR. MONTGOMERY, in closing, said that Dr. Howard Fox had enunciated what he believed to be a very potent cause of this condition in some cases. Syphilis was a very potent factor in arterial narrowing, but in his case, the speaker said, the Wassermann was negative, and there was no reason either in the history or in the examination to refer the trouble to syphilis. Nevertheless, even in the absence of a luetic history or luetic disease, such patients might show improvement under potassium iodide and mercury, as the iodide of potash might act beneficially on the blood vessels and the sublimate was a good intestinal antiseptic. In the case he had reported, there was intestinal intoxication, and there were marked evidences of anæmia. Why should not these symptoms be due to a toxin? In Raynaud's disease the vessels were subject to alternate contraction and dilatation in a most irregular manner, and in his case he was inclined to believe that he had to deal with a toxin, which, for some reason he could not divine, acted more on the vessels of the left arm than on those of the right.

PURPURA ANNULARIS TELEANGIECTODES.*

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PART ONE.†

- HISTORICAL SKETCH.

In 1887 Domenico Majocchi observed a hæmorrhagic eruption which possessed unusual and unique characteristics. The most conspicuous feature of the eruption was the presence of innumerable tiny hæmorrhages, or hæmorrhagic puncta, which by coalescence produced annular lesions. In addition to the puncta there was an ecstasia of the cutaneous capillaries and pigmentation and atrophy of the skin. The eruption was limited to the lower extremities, and evolution and involution were very slow. After perusing the literature, Majocchi became convinced that he was dealing with an affection that had previously been unrecognized and unclassified—in other words, a new dermatosis. Unfortunately, the patient made only the one visit, so that a careful study was not made. Nevertheless, the mental impression of the eruption was retained, and in 1891 patience was rewarded by the opportunity of observing an infant monstrosity which, in addition to many curious anatomical defects, depicted the hæmorrhagic annular lesions which, in this instance, were situated on the back. The babe lived only three months, but tissue was obtained from the cadaver and preserved for future study. The histological study of this tissue was made in 1894, at

* Read in abstract before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

† This article will appear in 3 parts. Part 1, consisting of the historical sketch, composite pictures, photographs and case reports, is contained in this issue of *THE JOURNAL*. Part 2 will be published in the March issue and will consist of a discussion of the clinical and histological features of the disease, with clinical and histological charts and a consideration of the ætiology, pathogenesis, etc. Part 3 will appear in the April issue and will contain a complete review of the literature.

which time a third and more marked example of the disease was encountered. A report made at this time constituted the first histopathological study of the affection. Careful clinical observations were made in the third case, but tissue was not obtained. Therefore, Majocchi's first paper, published in 1896—the first published record of the disease—was based upon the clinical study of the third case, the histological study of the second case, and the recollections of the first case.

In 1898 the above material, together with two additional clinical observations, one of which was obtained through the courtesy of Pini, was made the basis of Majocchi's second paper, which was published in Pick's *Festschrift*.

It was not until 1904, however, that Majocchi had a good opportunity to study the histopathology of the new dermatosis. At this time he encountered two new cases, from one of which he was able to obtain a liberal amount of tissue. He then collected all his material and published a profusely illustrated monograph in honor of Pick's anniversary.

Majocchi's last publication appeared in 1912, and consisted of six unrecorded cases, from two of which tissue was obtained.

The first record of a case of purpura annularis teleangiectodes by an observer other than Majocchi was by Brandweiner, who presented a case to the Vienna Dermatological Society in 1904. In 1906 he published a complete history of this case, and added two additional examples of the disease. This communication was followed by case reports and articles on the subject by Arndt and Krew, in 1907; Balzer and Galup and Farrari, in 1908; Vignolo-Lutati, 1909; Sachs and Brandweiner, 1910; Verrotti, Radaeli and Ossola, 1911; Brandweiner, Lindenheim, Lier, Vignolo-Lutati and Balina, 1912; Nobl, Ambrosoli and Pasini, 1913; and Truffi in 1914.

COMPOSITE CLINICAL PICTURE.

Purpura annularis teleangiectodes is divided into three stages, namely: teleangiectatic, hæmorrhagic-pigmentary and atrophic. These stages may or may not be well defined; often there is an overlapping, and in many instances the atrophic stage is absent, and the teleangiectatic stage may at times escape notice. The appearance of the eruption is not infrequently preceded by rheumatic or neuralgic pains, especially in the knees. There are no marked subjective symptoms in connection with the eruption, but a mild pruritus may be present. The eruption first appears, as a rule, on

the legs and the dorsal surfaces of the feet, and is likely to be limited to these regions. The next site of election is the thighs. Lesions are frequently noted on the forearms. Occasionally the eruption attacks the arms, axillæ, chest, abdomen, back and buttocks. In one instance lesions were noted on the soles of the feet and in the mouth. The eruption is always bilateral, and it is usually symmetrical.

Evolution is very slow, the eruption requiring several weeks, or even months, to attain the maximum development. The same may be said in regard to involution; the total eruptive period ranges from several months to a year or more.

The early lesions consist of lentil-sized, well-defined, rose or red-colored macules which are composed of a fine network of dilated capillaries. It is often necessary to observe the capillary dilatations through a lens. Diascopic pressure causes a distinct paling but not a complete disappearance of the color. This constitutes the teleangiectatic stage.

Minute, dark-red puncta appear throughout the lesion, but especially at the margin. These puncta consist of hæmorrhages or thrombosed capillary loops. Diascopic pressure causes a paling of the lesion as a whole, but no alteration of the color of the hæmorrhagic dots is observed. Occasionally there is a very fine desquamation over the lesion. The puncta are often, but not always, follicular or perifollicular. The lesions now enlarge by peripheral extension to the size of a dime and may even attain the dimensions of a silver half-dollar. Occasionally discrete puncta may be found independent of the teleangiectatic lesions. As the lesions enlarge they tend to clear in the centre, so that annular formations are produced. In such lesions the centre is usually more or less deeply pigmented—yellow or brown—while the margin is of a red color and contains innumerable dots of a deeper red. On the other hand, the centre may be composed of normal skin. Not infrequently annular lesions combine to produce various configurations. Occasionally, too, linear lesions are noted. This constitutes the hæmorrhagic-pigmentary stage.

Finally, after a more or less protracted period of quiescence, involution occurs. The lesions lose their sharp outlines, the margins become pale, assume a yellowish-brown color, and finally disappear. The pigmentation, when present, may last for many months, but it is gradually lost. Usually, but not always, atrophy and alopecia is noticed in the centre of the lesion, the former more frequently than the latter. After the disease has disappeared, atrophy or alopecia or

both may remain as a permanent reminder of the former eruption. This constitutes the atrophic stage.

The lesions of purpura annularis teleangiectodes are seldom if ever perceptibly infiltrated. Occasionally, as in my case, there may be very slight superficial ulceration or excoriation, probably of secondary nature. There is never any erythema, œdema nor clinical signs of inflammation. The disease may run an uninterrupted course through the three periods—all lesions being of the same age—or there may be periods of remission and exacerbation. Not infrequently new lesions continue to develop as old ones disappear, so that the three stages are seen in the same individual, throughout many months. The ætiology is not known. The eruption occurs most often in males.

COMPOSITE HISTOLOGICAL PICTURE.

The histological findings vary according to the stage of the disease, the age and type of the lesion, the particular part of a lesion that is studied and perhaps, too, the age of the patient and part of the body. The most important alterations are found in the blood vessels. In the early or teleangiectatic stage, the vessels are simply dilated, contain more or less blood, and show the early changes of endarteritis. It is in the hæmorrhagic-pigmentary stage that the most interesting changes are noted. The principal feature is an obliterating endarteritis which may be seen in varying degrees of development, according to the stage of evolution. All through the derma the vessels are ectased and they may be increased. When augmented numerically, they are likely to occur in groups, producing, in this way, a lobulated appearance. The capillaries are usually surrounded by a moderate round cell infiltration. Many of the ectased vessels are not only enormously dilated, but are engorged with blood and a diapedesis of red cells may be noted. The endarteritis is mainly due to a swelling and proliferation of the endothelium, but the media is also apt to be thickened by swelling and a separation of its component parts. In some instances this change in the media is the principal one. Alterations may be noted in the adventitia, but this coat is usually intact and does not appear to play an important rôle in the process. A distinct panarteritis is very seldom encountered. Although the vessels in the papillary body are affected, the most marked alterations are seen in the deep reticular layer and in the hypoderm. The veins as well as the arteries are involved. In the later stages of the hæmorrhagic-pigmentary period the media undergoes hyaline degeneration. In some

of the capillaries this process advances rapidly at one point; the intima then becomes thinned over this particular area and internal pressure causes a peculiar aneurismal sacculatation. For a while the vessel is held intact by the resistance of the external elastic coat, but sooner or later rupture occurs, with the production of free hæmorrhage. Occasionally, as in my case, coagulation necrosis may be the end result of the obliterating endarteritis, but usually the capillary is destroyed by hyaline degeneration. In any event, the terminal or atrophic stage shows a marked reduction in the number of capillaries, and the cell infiltration disappears.

The derma depicts more or less œdema and the collagen may be slightly degenerated and retracted. In the late stages the papillæ are obliterated. Numerous hæmorrhagic and pigment foci are encountered. The elastica is apt to be reduced throughout and entirely lost in the areas of infiltration.

In many instances the follicles undergo atrophic changes and may disappear completely. Similar alterations have been noted in the sebaceous glands and, to a lesser extent, in the coil glands. The supporting structure of the coil glands is likely to be modified by degenerative processes. The non-striated muscles in many instances depict œdema, degeneration and atrophy. The hypoderm in the early stages shows areas of pigment and hæmorrhage. Later it is likely to become atrophic.

In the early stages the epidermis may be slightly acanthotic and œdematous, but later it is likely to become attenuated. In one instance (my case) excoriation of the epidermis was noted.

The following case came under the observation of Dr. Wise and myself at Dr. Fordyce's clinic. Dr. Wise had but recently published his work on infective angioma and we were constantly on the lookout for analogous cases. It was through our knowledge of Hutchinson's angioma and allied conditions that we were able to identify the present case as one of purpura annularis teleangiectodes. So far as I have been able to determine, it is the first case of purpura annularis teleangiectodes to be reported in the United States.

CASE REPORT.

P. R.; male; single; age, 22; native of Greece; in United States for 6 years; occupation, waiter.

FAMILY HISTORY. The patient's mother and father are living and are in good health. Two brothers died of scarlet fever when

very young. One sister and brother are living and are in good health.

PAST HISTORY. The patient had whooping cough, measles and scarlet fever during his boyhood. He cannot remember ever having had any skin eruption previous to the advent of his present disease. He has always been healthy. Careful questioning failed to elicit any history of syphilitic infection.

HISTORY OF PRESENT TROUBLE. Seven months before he came under observation, the patient complained of pain in both legs below the knees. There was, also, slight itching of the skin in these regions, which was most marked on the anterior surfaces. Both the pain and the pruritus were most noticeable at night. Three or four weeks later, he noticed several small red spots on the internal and anterior surfaces of the right leg. New lesions developed each day until the regions mentioned became covered with the eruption. The disease then spread to the internal and external surfaces of the right foot, being most abundant in the neighborhood of the malleoli. A few lesions appeared on the external surface of the same leg. Soon after the eruption developed on the right leg, the left leg also became involved. Here, the same regions were affected, but not so extensively—the lesions not being as numerous nor as large. The patient complained of pain in both legs and both feet, it being most marked on the internal surface of the right leg (at the point where the eruption attained its maximum of development). Here the lesions became confluent and there were several places in this area where superficial ulceration and crusting occurred. Later, the skin of the affected surfaces showed a branny desquamation as the eruption faded. Resolution began after the eruption had lasted about eight or ten weeks. At the same time the subjective symptoms disappeared. The red color was gradually replaced by a yellowish-brown pigmentation. This change required about three months. The patient states that the lesions consisted of small red macules, ranging in size from a pinpoint to a split pea and annular lesions about the size of a dime.

About four or six weeks later (one month before coming under observation) the pain and itching again became manifest, and in a week or ten days a new crop of lesions developed on all the areas previously affected, with the exception of the internal surface of the right leg. The patient had taken no medicine whatsoever for several years.

EXAMINATION, June, 1913.

PHYSICAL EXAMINATION. The patient is a robust individual of a somewhat neurotic type. He is 5 feet 4 inches tall and weighs 165 pounds. He was not well educated and did not impress one as being very bright mentally. His skin was dark. The viscera were normal. The urine and blood showed no abnormalities. There were no stigmata of tuberculosis nor of hereditary syphilis, nor were there any signs of acquired syphilis. There were no varicose veins and the plantar arches were normal.

SPECIAL EXAMINATION. The Wassermann reaction (performed by Drs. Zinsser and Jagle) was negative. The von Pirquet test was positive.

DESCRIPTION OF ERUPTION. The eruption occupies the anterior and lateral surfaces of both legs below the knees, both ankles and the dorsal and lateral surfaces of the feet. All other parts of the cutaneous surface of the body, including the mucous membranes, are normal in appearance, with the exception of a very few lesions on the posterior surfaces of the legs.

Careful clinical observation reveals four varieties of lesions:

1ST. PUNCTATE LESIONS. These consist of discrete, bright or livid-red spots, ranging in size from pinpoint to pinhead. It is possible, even with the unaided eye, to discern capillary dilatations. The ectasia or teleangiectasia is most noticeable in the larger lesions and is very distinct under the lens. The color is reduced, but not entirely lost under diascopic pressure. There is no apparent relationship to the hair follicles. There is no infiltration and the lesions are not elevated above the niveau of the skin. These lesions probably represent the earliest stage of evolution.

2ND. MACULES, ranging in size from a pinhead to a split pea. These lesions are discrete and possess a brownish-red centre and a bright-red border. Scattered throughout the periphery are numerous dark-red puncta. Occasionally, a few such dots can be seen in the centre. Some of the macules are capped with a very thin scale, but there is no apparent infiltration. The color of the macule fades a little under the dioscope. The color of the dark-red dots does not change at all under firm pressure. The puncta, therefore, would seem to be hæmorrhagic in character or composed of a thrombotic capillary loop. A few such puncta were found independent of the macules. The macules represent the transition between the lesions of the first class and the annular lesions about to be described.

3RD. ANNULAR LESIONS. In size these range from a split pea to a dime. The more recent ones show a yellowish-red centre and a bright-red margin, containing numerous dark-red, hæmorrhagic points. The older lesions depict either normal skin in the centre, or what is more common, slight atrophy and a faint yellow or brownish-yellow pigmentation. There is no alopecia. In these older lesions the border is a dark red and, as a rule, contains puncta of even a deeper red color. The border and even the entire macule, in many instances, shows a slight furfuraceous scaling. A few, however, depict a margin covered with a thin crust which, when removed, leaves a shallow groove. In a few instances this crust and groove extends around the entire lesion. Some lesions appear to have the periphery composed of one continuous, dilated and thrombotic blood vessel, which runs parallel to the surface. With the exception of the crusts, the lesions are not raised above the normal level of the skin and no infiltration can be detected. These annular lesions often unite to form a chain or to produce a gyrate configuration. For the most part, however, these lesions, although often closely crowded, remain discrete.

4TH. PIGMENTED AND ATROPHIC LESIONS. Lesions of this class consist of confluent and discrete, split-pea to dime-sized, circular areas of pigmentation and atrophy. They represent the terminal stage of involution. In some instances the macules are of a faint yellow color, hardly discernible, at times associated and at other times not associated with visible atrophy, and possessing an ill-defined margin. Macules may also be seen in which there is a brownish-yellow centre and distinct atrophy and a periphery of a deeper brown. Finally, there are macules of a dark-brown color in which there is a suggestion of a violaceous or purple hue. This peculiar color is possibly due to the fact that the thinned and atrophic skin allows the red of the dilated capillaries of the cutis to combine with the yellowish and brownish pigmentation. There does not appear to be any alopecia in the lesions of the fourth class.

DISTRIBUTION. Left leg. The lower two-thirds of the left leg, from just below the knee to the ankle, is affected. The lesions are numerous on the inner surface and sparse on the outer surface. There are very few lesions on the posterior surface. Over these areas there are numerous lesions of the first and second class with here and there lesions of the third class. For the most part the lesions are discrete, although they are close together, while here and there the spots are confluent. Split-pea to dime sized areas of light-brown pigmentation are scattered throughout the region.

There is a slight furfuraceous scaling of the entire affected area. There is no general atrophy; only in connection with the lesions. The hair is apparently unaffected. There is no inflammation nor oedema.

Left foot. The dorsum and both sides of the foot presents a preponderance of annular lesions, although numerous lesions of the first and second class are present. Some of the annular lesions have coalesced, lost their individuality, and produced larger polycyclic, serpiginous and irregularly circular plaques. Of these configurate, combined lesions there are three just above and posterior to the internal malleolus. One of these measures 1 inch by $\frac{3}{4}$ of an inch. Of the smaller annular units, varying from 3 to 6 millimetres in diameter, there are several whose peripheries show a crusted band. This crust, when removed, leaves a depression or groove. In some instances this crust extends almost entirely around the lesion. In other lesions, instead of the crust, there is a slight furfuraceous scaling.

Scattered over the dorsal surface of the foot are numerous small isolated areas of yellowish-brown pigmentation, while on both lateral surfaces there is a diffuse brownish pigmentation of a darker hue. Both lateral surfaces show a diffuse, slight, furfuraceous scaliness.

Right leg. Here, too, the eruption is most marked on the inner surface, with very few lesions on the posterior aspect. The eruption extends from a few inches below the knee to the malleoli. As a whole, the eruption is considerably more marked on the right than on the left leg. This is true, also, of the feet. The inner surface of the leg is especially interesting. Here there is a patch extending from 4 inches below the knee to 2 inches above the ankle joint and which crosses the shin and involves a small portion of the external surface. It extends back to and affects a small portion of the posterior surface. The patch is most marked on the lower part of the leg. It consists of coalesced, split-pea to dime-sized macules of a brown color. The pigmentation, however, is not uniform, the peripheries being darker than the centres. The latter are distinctly atrophic, but there is no apparent alopecia. On account of the atrophy and lighter color of the centres of the units, the patch presents a reticulated appearance. The right leg depicts a few scattered lesions of the first, second and third types.

Right foot. Just below and in front of the inner malleolus are three annular lesions forming a chain. The upper two have coalesced, while the lower one is 2 millimetres below the middle link. These three lesions possess a well-marked, dark-red periphery which

is entirely surrounded by a collar-like scale. The centres are yellowish-red. Their diameter is 6 millimetres.

Just posterior to the internal malleolus there are two annular lesions with crusted borders which have coalesced. The right foot shows more pigmentation and a larger number of lesions with crusted peripheries. Otherwise the eruption of the right foot corresponds in character and distribution to that of the left foot.

COURSE OF THE ERUPTION AND SUBSEQUENT HISTORY. While the patient was under observation from June, 1913, to May, 1914, he was very irregular in attendance at the clinic so that it was impossible to make frequent observations. When he first came under observation, in June, 1913, he complained of pruritus and pain, and there were lesions in every stage of development. But in spite of this, it was impossible to observe the actual increase in size of the lesions and it was impossible to determine in just what manner they increased in diameter. The eruption had apparently reached its maximum of development when he was first seen. The pain soon disappeared and there was a gradual fading of the lesions until the latter part of August, when nearly all of the red lesions had been replaced by areas of pigmentation. The involution, however, was not entirely uninterrupted. Occasionally there was an increase in the amount of discomfort, and the color of the old lesions seemed to become more prominent while a few new lesions made their appearance. In October there was a mild exacerbation which was accompanied by a new crop of lesions and which was preceded by slight pain. By December the active lesions had entirely disappeared. The patient was last seen in May, 1914. At this time there were no red lesions, but there were numerous areas of pigmentation and atrophy. The patient has been free of pain until just previous to his last visit, when the pain returned and he was afraid that it prognosticated a return of the eruption. In addition, he complained of hyperidrosis of the feet.

HISTOPATHOLOGY.

Two pieces of skin were removed for the purpose of histological study. One specimen was taken from a lesion which exhibited atrophy and marked pigmentation and which had existed for several months. Clinically, there were no hæmorrhagic puncta and only slight teleangiectasia. The lesion was the size of a dime. The margin was a dark brown in color, while the centre was a lighter brown and atrophic in appearance. The tissue was removed by means of a cutaneous

punch, and included the margin and part of the centre of the lesion and a portion of the adjacent normal skin. The other specimen was removed in a similar manner from a smaller and more recent lesion. Here there were teleangiectasia, hæmorrhagic puncta and erosion of the epidermis. The tissue was hardened and fixed in alcohol, embedded in paraffin, cut serially and stained with hæmatoxylin-eosin and Weigert's elastic tissue stain.

ACUTE LESION. The principal and apparently the primary change is in the blood vessels of every part of the derma and of the subcutaneous tissue. Probably the most striking feature, under the low power, is the very marked increase in the number of small capillaries. These are arranged in groups, which produces a pronounced lobulated appearance. Throughout the derma and subcutaneous tissue all the vessels are widely dilated. Some of them possess a patulous lumen, and many of these are engorged with blood, while others are empty or contain but a few cells.

Another very marked vascular change is the endarteritis which manifests itself by swollen and proliferated endothelium. In many instances the vessels are completely occluded by this process, while in others there remains a very restricted lumen. Many vessels, especially the larger ones, in addition to the hyperplasia of the intima, show a pronounced thickening of the middle and external coats.

Small hæmorrhagic foci, always in relation to the vessels, are noted in all the layers of the derma. The red cells are in a good state of preservation. There is considerable œdema of the corium, which is demonstrated by a widening of the interfascicular spaces. Finally, there is a moderate perivascular, round-cell infiltration consisting mostly of lymphocytes, but containing, also, a few plasma cells and connective-tissue cells.

The above description applies to the periphery or most active part of the lesion. In the older part (centre), beside the above-mentioned alterations, there are some additional and interesting changes in the vessels. The most noticeable feature is a hyaline degeneration of the arterial walls. It is very slight in some vessels, but so marked in others that the entire anatomical structure of the vessel is lost. It can be seen in all stages of development. This feature is most noticeable just inside of the periphery of the lesion. Here and there tiny aneurismal sacculations are seen in the walls of the vessels. At these points the wall of the vessel is thinned and there is an outward ballooning. Many of the degenerated and sacculated capillaries have ruptured, allowing a free hæmorrhage into the surrounding tissue. While small hæmorrhagic foci are noted in the

superficial derma, even in the papillæ, in the reticular layer, particularly at the junction of the derma with the subcutaneous tissue, large hæmorrhagic areas are seen. In some instances the blood is badly disintegrated, resulting in the production of pigment. In the very oldest part of the lesion, an occasional area of coagulation necrosis is encountered.

The coil glands show a marked mucinous degeneration of their supporting structure. The hair follicles are practically normal. The elastic tissue is reduced in amount throughout the derma.

The changes in the epidermis are mostly secondary, but there are some alterations that are worthy of mention. At the outer edge of the lesion there is œdema and a slight acanthosis. A little nearer the centre, at the point where the vessels of the underlying cutis show such a marked hyaline degeneration, the epidermis is eroded to such an extent that only the lower two or three layers of cells remain. In places, the epidermis is separated from the underlying papillary bodies, the resulting spaces being filled with red cells. In the extreme centre of the lesion the epidermis is thinned and the rete pegs are shortened.

CHRONIC LESION. The epidermis is atrophic; the interpapillary prolongations and the papillæ are flattened out. The lowermost layers of the epidermis contain an increased amount of pigment.

The corium is quite œdematous. While the number of capillaries is larger than normal, compared to the more recent lesion already described, there are very few vessels; these are dilated. They show an endarteritis with more or less obliteration of the lumen. There are numerous hæmorrhagic foci all through the cutis in which the red cells are in various stages of decomposition. There are many areas of pigmentation scattered throughout the derma. The hair follicles and coil glands in these sections show nothing remarkable—they are practically normal. There is a very slight perivascular, round-cell infiltration. Collagen shows slight evidence of degeneration. There is a marked diminution in the amount of elastic tissue all through the derma, with almost total absence around the blood vessels. The few fibres that remain show cloudy swelling.

Last spring, at the 1914 meeting of the American Dermatological Association, Harris, of Chicago, presented a case for diagnosis. The complete report of this case will appear in the April or May, 1915, issue of *THE JOURNAL*, as part of the Transactions of the above-mentioned Association. Harris, however, has kindly allowed me to mention the case before its publication. The patient was a medical

PLATE VI.—To Illustrate Article on "Purpura Annularis Teleangiectodes,"
by GEORGE M. MACKEE, M.D.



Fig. 1.

PLATE VII.—To Illustrate Article on "Purpura Annularis Teleangiectodes,"
by GEORGE M. MACKEE, M.D.

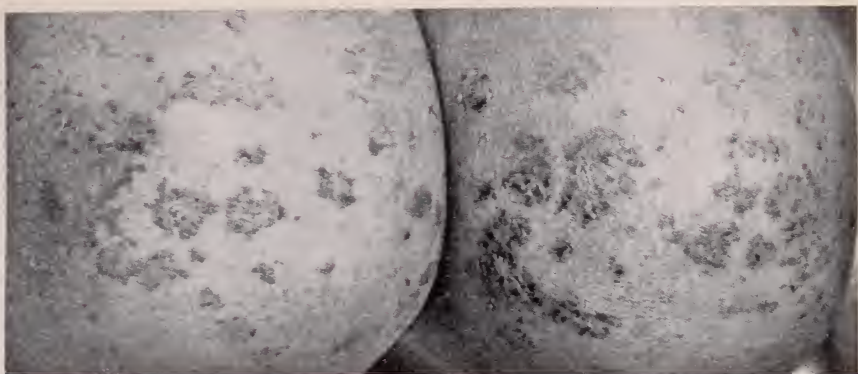


Fig. 2.



Fig. 3.

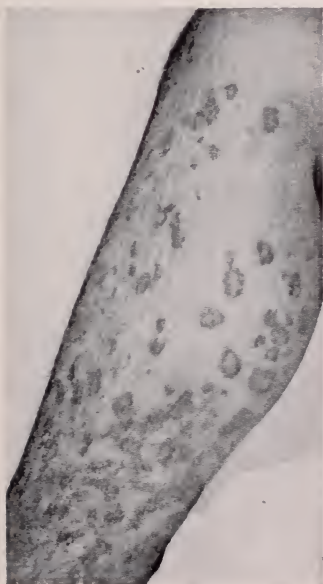


Fig. 4.

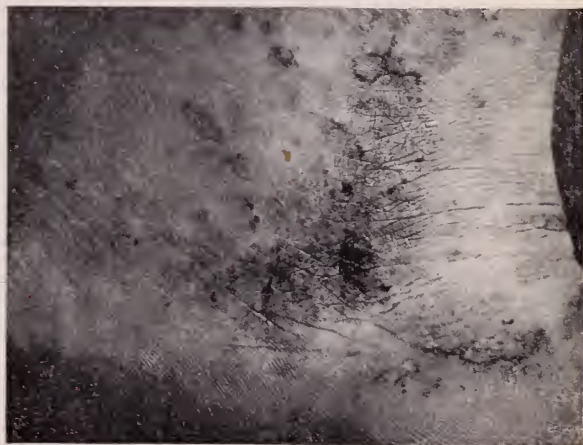


Fig. 5.

PLATE VIII.—To Illustrate Article on "Purpura Annularis Teleangiectodes,"
by GEORGE M. MACKEE, M.D.

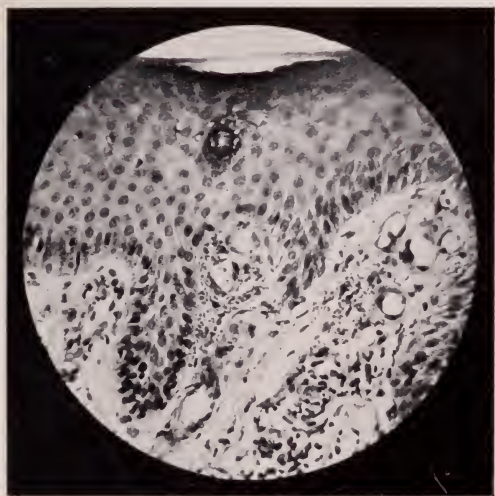


Fig. 6.

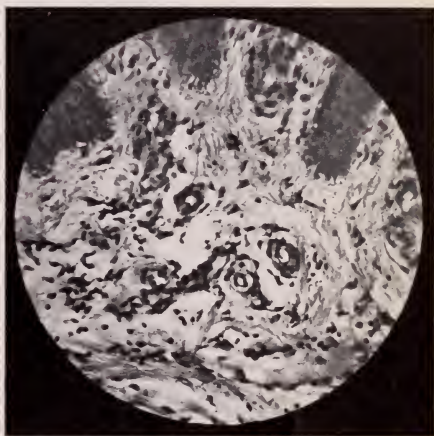


Fig. 7.

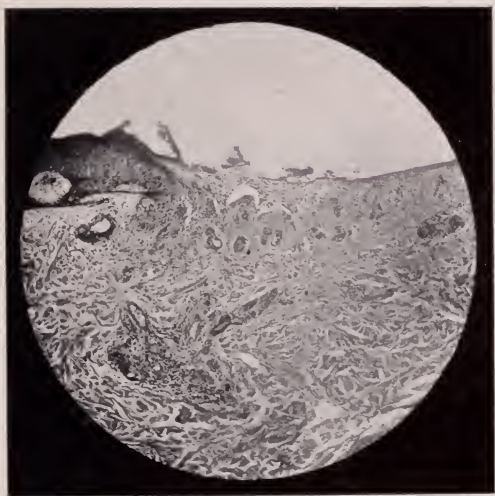


Fig. 8.

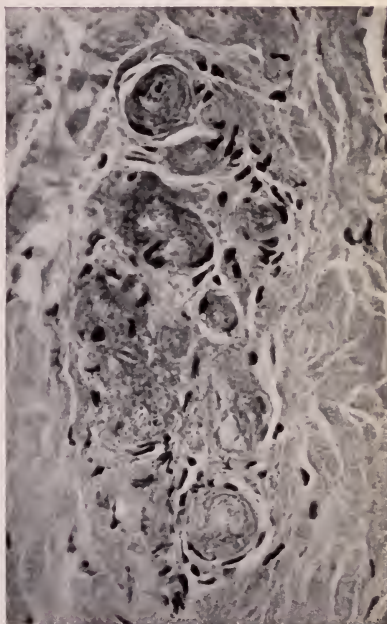


Fig. 9.

PLATE IX.—To Illustrate Article on "Purpura Annularis Teleangiectodes,"
by GEORGE M. MacKEE, M.D.

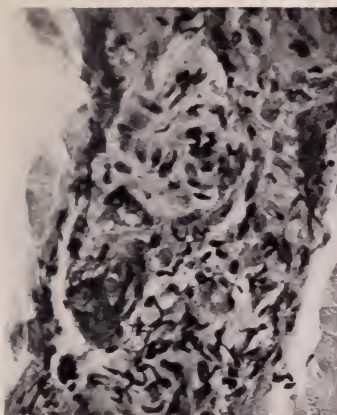


Fig. 10.

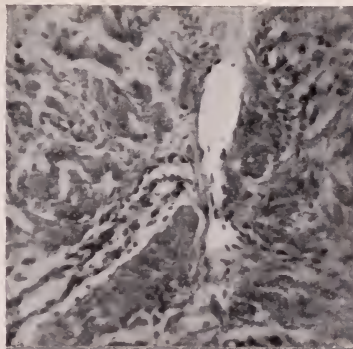


Fig. 11.

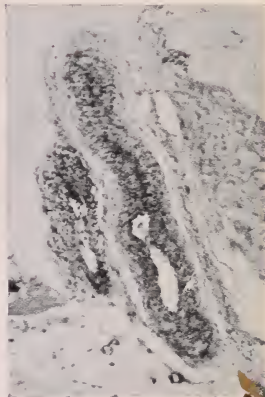


Fig. 12.



Fig. 13.

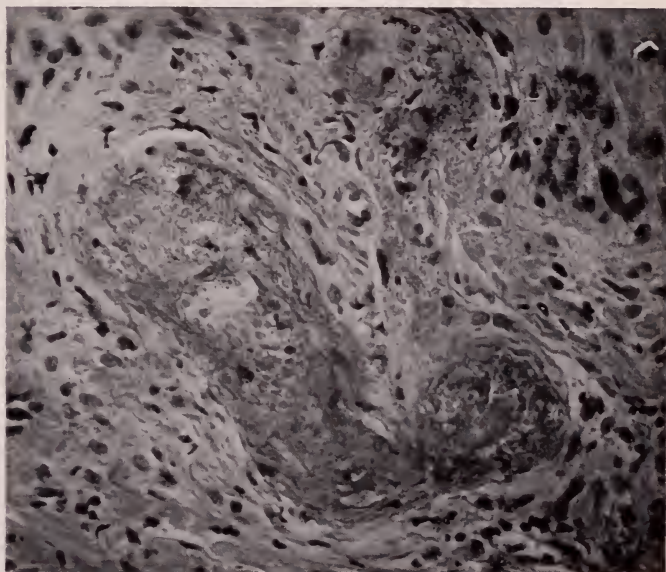


Fig. 14.

student of American birth. As I recall it, the eruption had been present for nearly a year. It began on the lower limbs and had spread to the arms and trunk. The eruption was undergoing resolution, so that many of the lesions were not well defined. But there were numerous annular configurations with pigmentation, angiectasia and hæmorrhagic puncta. I do not remember if there were or were not any alopecia and atrophy. However, the clinical picture, together with a history of slow evolution, led me to make a diagnosis of purpura annularis teleangiectodes. And I was much pleased when Prof. Arndt, who happened to be in attendance, and who had studied a number of examples of the affection, confirmed my diagnosis.

DESCRIPTION OF ILLUSTRATIONS.

- FIG. 1. Inner surface of right leg and foot of the author's case of purpura annularis teleangiectodes. The lesions on the leg are pigmented, atrophic, annular macules, some of which have coalesced. The two large ulcers are the result of biopsies. Note the annular lesions at the ankle, showing a crusted periphery.
- FIG. 2. Taken from Pasini's article (*Giorn. ital. d. mal. ven. e d. pel.*) and illustrating his case of annular purpuric lesions of probable syphilitic ætiology.
- FIG. 3. Annular hæmorrhagic lesions occurring in the author's case of ordinary purpura.
- FIG. 4. Taken from Pasini's article (*Giorn. ital. d. mal. ven. e d. pel.*) and illustrating his case of purpura annularis teleangiectodes.
- FIG. 5. Author's case of purpura annularis teleangiectodes. Shows annular macules with hæmorrhagic puncta at the periphery. Also a lesion with a crusted periphery.
- FIG. 6. Early stage of the disease. Shows capillary dilatation, moderate round cell infiltration, free hæmorrhage and œdema.
- FIG. 7. Early stage of the disease. Shows proliferation of endothelium.
- FIG. 8. Later stage of the disease. Shows numerical increase in capillaries which occur in groups. Also ectasia, round cell infiltration, endarteritis, œdema, and *erosion of the epidermis*.
- FIG. 9. Late stage. Shows a group of capillaries in reticular layer with varying degrees of hyaline degeneration and very little perivascular infiltration.
- FIG. 10. Obliterating endarteritis and coagulation necrosis.
- FIG. 11. Taken from Pasini's article (*Giorn. ital. d. mal. ven. e d. pel.*). Shows an aneurismal sacculation of a capillary in the superficial derma.
- FIG. 12. Taken from Pasini's article (*Giorn. ital. d. mal. ven. e d. pel.*). Infiltration and semi-obliteration of a vein in the hypoderm. The artery shows a thickening of the muscular coat.
- FIG. 13. A capillary in the deep derma showing thickened wall, infiltration, obliteration, and beginning hyaline degeneration.
- FIG. 14. A group of capillaries just beneath the epidermis. The anatomical structure has been largely destroyed by hyaline degeneration.

(To be continued in the March issue.)

SOCIETY TRANSACTIONS.

MANHATTAN DERMATOLOGICAL SOCIETY.

Regular Meeting, October, 1914.

D. L. SATENSTEIN, M.D., *Chairman*.

CASE FOR DIAGNOSIS. Presented by Dr. MOUNT.

The patient, a male adult, 29 years of age, with no venereal history, first noticed his affection nine years previous to his presentation to the Society. He claimed that the original lesion which appeared at that time was present when presented. The lesions were limited entirely to the middle third of his left lower leg. No other portion of his body was or had been involved. The lesions gradually increased in number, especially during the last two or three years, and consisted of numerous hard, firm, pinkish to light brown colored convex-surfaced papules, varying in size from a pin head to a pea. They seemed to be perifollicular, and in places it appeared as if fusion had taken place. Some of the lesions looked as if there might have been fluid in them, but neither puncture nor incision could bring any to view. The patient complained of a feeling of pain, but no itching sensations. Dr. Mount had had him under observation for two months, and there had been no retrogression of any of the lesions. The speaker said that sarcoid had been suggested as a diagnosis.

DISCUSSION.

Dr. Pisko said it impressed him that many of the lesions were pierced by hairs. He would not say that it was a purely follicular affair, but could not agree that it was sarcoid, that only a biopsy could determine the nature of the lesion.

Dr. Gottheil said that a sarcoid with so many lesions on one leg and none on the other did not appeal to him.

Dr. Howard Fox remarked that he had seen a case at the International Congress in London with lesions upon the chest that clinically resembled this one, in which the histological diagnosis of syringo-cystoma had been made. He considered it impossible in the present case to make a diagnosis without the microscope.

ANGIO-SARCOMA? Presented by Dr. PAROUNAGIAN.

The patient was a female baby, 6½ months old. The lesion was situated at the upper corner of the left eye, the size was about two by two centimeters. The mother stated that it appeared about two and one-half months after the child was born and grew pretty rapidly. The patient had been referred to Dr. Pollitzer's clinic for CO₂ treatment, although on account of the peculiar appearance of the lesion, with bluish veins and the rapidity of the growth, he suspected angio-sarcoma and presented the patient for an opinion.

DISCUSSION.

Dr. Gottheil said he would use the solid carbon dioxide in this case without hesitation. He stated that he had treated some pretty large lesions successfully. That the object of the carbon dioxide snow was not to obliterate the tumor, but to cover it with layer after layer of new connective tissue, thus not only thickening its covering and masking its color, but by its shrinking, exercising pressure on the growth.

Dr. Pisko said he did not agree with the diagnosis but thought it was an or-

dinary angioma, that in later months these lesions did not grow as much, comparatively, as they did when the child was younger. He would not apply the carbon dioxide snow in this case, nor in any other case of this kind, because the area was much too large and very deep. He felt the lesions between his fingers and found that the tissue went quite deeply, and he believed that the result of a surgical operation would be the best.

Dr. KINGSBURY regarded the lesion as a simple angioma, and stated that in his opinion it would probably disappear without treatment.

Dr. MacKEE agreed with the diagnosis of angioma, but said that the growth was unusually firm for a cavernous angioma, and also that the lesion failed to pale quickly or readily under pressure. The speaker thought that the case simulated, to some extent, a patient he had exhibited at the Society last Spring, where a lesion on the thigh, while suggesting a cavernous angioma in appearance, presented the characters already enumerated, and which, when studied under the microscope, proved to be a fibromyxoma.

Another possibility in Dr. Parounagian's case was that we were dealing with an angioma in which there was a hypertrophy or hyperplasia of connective tissue. In this connection, the speaker said he presented a case to the Society last Winter where the overgrowth of connective tissue had completely obliterated the centre of the angioma. In other words, a spontaneous cure was being produced. The speaker called attention to the fact that cavernous angiomas were extremely common in children, but were of rare occurrence in the adult. These facts would indicate that many such lesions gradually disappeared without treatment. Radium, X-ray and the solid carbon dioxide were simply useful in hastening the natural curative tendency in promoting endoarteritis and the development of an excess of fibrous tissue.

The speaker demonstrated several photographs illustrating angiomas in various stages of spontaneous recovery.

Dr. Pisko said he presented a child to the Society with multiple angiomas, which he treated with the solid carbon dioxide snow. The small lesions were treated with a good result, but the larger ones not, especially so, one on the labium majus.

Dr. Ochs agreed with Dr. Gottheil, but did not think that the solid carbon dioxide should be used with much force or very long, that it should be applied for about fifteen to twenty seconds and lightly. In the case of the multiple angiomas of which Dr. Pisko spoke, the tumor on the vulva was the size of a large walnut and it had decreased to the size of a hazel nut, about one-third of the original size, and had had only six applications, with but moderate pressure.

ONYCHOMYCOSIS. Presented by Dr. Ochs.

The patient, N. N., male, aged 6 years, came to Lebanon O.P.D. the July previous, with a sharply defined eczema, involving the thumb, first and second fingers of the left hand, and the thumb and first finger of the right hand. At that time some the nails of both hands were affected, and there was exfoliation of the nail of the thumb of the left hand, and nail of the first finger of the right hand. Very soon thereafter all the nails were exfoliated. The new nails appeared all cracked, crumbled and a dirty brown in color. When presented, the nails of the toes were likewise affected. On the body there was a sharply defined tinea circinata, the parasite having been found microscopically.

DISCUSSION.

Dr. MacKEE said that in his experience the X-ray was the best treatment for ringworm of the nails. Some cases responded readily, while others were extremely stubborn, but he knew of no other measure that would produce as good a result in the same length of time.

PITYRIASIS ROSEA RESEMBLING SYPHILIS. Presented by Dr. WEISS.

The patient was a male adult and was presented for a differential diagnosis. The patient was not shown on account of his pityriasis rosea, but because some of its features closely resembled a macular syphilide.

DISSEMINATED TINEA TONSURANS CURED BY THE X-RAY. Presented by Drs. MACKEE AND WISE.

The patient was a female child who was presented to the Society last Spring. Three weeks previous to the last presentation, she had had the entire scalp X-rayed at one sitting, and as a result the scalp was entirely denuded of hair and there was no erythema. The hair had regrown in a most vigorous manner and there was no evidence of ringworm. The hair was a little lighter in color, and while the original growth was perfectly straight, the new growth was markedly curly.

The speaker said that he had treated over a hundred such cases with only one bad result. He gave an outline of the technique and presented several photographs illustrating the method.

DISCUSSION.

Dr. HOWARD FOX inquired whether any one in New York besides Dr. MacKee was treating cases of ringworm of the scalp by the single-dose method. Dr. Fox said that he was informed by one of the physicians at the London Hospital that 700 cases had been treated at that institution during a period of seven months. In every case a cure was obtained without any permanent alopecia.

Dr. OULMANN said that at the International Congress seven years ago he showed a case of trichorrhexis nodosa, where he had epilated the entire scalp by X-rays. The hair came back normally. In Rome, at Professor Giarocchi's clinic, a number of leptothrix cases were treated successfully as well by the single, as by treatment of several doses.

Dr. BECHET said that within the past year he had seen two cases of permanent alopecia following the use of the X-ray. They had received more than one exposure, although, if he remembered rightly, they did not exceed three or four in number.

DERMATITIS VEGETANS? Presented by Dr. OCHS.

The patient was a male colored child, who had been presented to the Society on several occasions. The child had been presented the last time in January, and the condition was regarded as syphilis. By request of the members he was again presented. He had been thoroughly treated with iodide of potash and other forms of treatment with absolutely no improvement, in fact, the lesion had extended and now almost encircled the leg. Dr. Ochs said he would like some suggestions as to treatment and diagnosis. The patient never had any bromides. When previously presented he had a number of small miliary abscesses and the pus had been examined repeatedly for blastomyces, but there was absolutely no evidence of blastomyces in the secretions; the large doses of potassium iodide that the patient had taken would have benefited him had it been blastomycosis, but instead the lesion kept on spreading.

DISCUSSION.

Dr. PISKO said that about twenty years ago, when he worked with Dr. Lustgarten at Mt. Sinai Hospital, they had a case similar to this, which afforded a number of diagnoses. It was also presented to the American Dermatological Association. At that time Dr. Lustgarten called it tuberculosis cutis, which diagnosis was accepted. In that case the atrophy was much more marked and was perfect

up to the raised margins. He would take this case for one of tuberculosis cutis.

DR. BECHET thought the child had tuberculosis cutis. He said blastomycosis was, clinically, very hard to differentiate from tuberculosis, but the blastomyces, after diligent search, had not been found. This excluded blastomycosis, and he considered tuberculosis the most plausible diagnosis.

DR. HOWARD FOX was inclined to agree with Dr. Bechet's diagnosis of tuberculosis of the skin. He thought the treatment by iodides without result was a strong argument against the diagnosis of blastomycosis. He also thought that syphilis could be excluded from the repeated negative Wassermann reactions and the entire lack of response to vigorous anti-syphilitic remedies. He promised to have guinea-pig inoculations made of this case.

DR. WISE believed the case to be one of lupus vulgaris serpiginosus.

DR. MACKEE said that it was practically impossible to make a clinical diagnosis in this case. From the history and laboratory reports it seemed probable that dermatitis medicamentosa, blastomycosis and syphilis could be excluded, and he was inclined to agree with the diagnosis of tuberculosis cutis. He would not call it lupus vulgaris on account of the absence of nodules and the fact that active foci had never developed in the scar. He hoped that a detailed histological report of the second biopsy would be given to the Society at the next meeting.

DR. OCHS said there had been two biopsies made in this case; the first one showed some granulation tissue, and the second one, another eight months previously, which would be reported later.

DR. HOWARD FOX, in answer to the remark that no lupus nodules were to be observed in the scar tissue, said it was only necessary to recall the case of Sadie Conover, published by him in THE JOURNAL (1912, xxx, p. 78). This was a case of hypertrophic lupus serpiginosus in which ordinary lupus nodules were not to be found and in which the scarring was often very slight. Another case which resembled the one presented was that of the Jackson woman (see THE JOURNAL, 1908, xxvi, p. 467).

DR. OCHS said he would like to ask Dr. Wise if a case like this one would extend so rapidly if it were lupus, as it was only eighteen months ago since the lesion started, was healed and relapsed one year ago, and spread more rapidly than a lupus would.

PITYRIASIS ROSEA WITH LESIONS ON THE FACE. Presented by DR. PAROUNAGIAN.

The patient was a female, 13 years of age; the lesions she presented had existed for ten days, and they were confined to the trunk and the face. The lesions were mostly macular, with a few scattered circinate patches; the itching was slight. The speaker had no doubt about the diagnosis, excepting the extensive lesions on the face, which he had never seen before in that locality.

DISCUSSION.

DR. MACKEE agreed with the diagnosis and thought the case was very interesting because of the face lesions. He had read and heard of the disease affecting the face, but had never before personally observed lesions of pityriasis rosea on this part of the body.

DR. PISKO said he had also never seen pityriasis rosea of the face. He objected to Dr. Parounagian terming it a typical pityriasis rosea, as it was anything but a typical case. He was able to find only one single spot where he could say it resembled pityriasis rosea. He believed that this was a seborrhœic affair.

DR. WISE stated that he could recollect seeing three or four cases within the last ten years of pityriasis rosea affecting the face. He agreed with the diagnosis as presented.

DR. HOWARD FOX agreed with Dr. Wise that the lesions were seen upon the

face at times, extending upward from the neck. He did not remember to have seen as many lesions on the face as were presented by this patient.

Dr. WEISS said he had seen cases of pityriasis rosea like this one, but the eruption did not extend above the lower jaw line. Dr. Parounagian's case was of the rare papular type. There were only a few circinate lesions present, which helped to confirm the diagnosis.

Dr. BECHET said that the lesions on the face seemed to occupy the favorite localities of a seborrhœic dermatitis. They were most numerous on the forehead, between the eyebrows, on either side of the nasal alæ, and on the sides of the mouth. Their color and scaling strongly suggested seborrhœic dermatitis, yet the lesions on the trunk were undoubtedly those of pityriasis rosea.

Dr. PAROUNAGIAN, in closing the discussion, said that he had seen the case a day before at Dr. Pollitzer's clinic, and the color of the lesions, distribution, sudden appearance, absence of seborrhœa on the scalp, etc., made him favor the diagnosis of pityriasis rosea. As far as the lesions on the face were concerned, Crocker's text-book stated that the lesions sometimes occurred on the face.

SECONDARY MACULO-PAPULAR SYPHILIS. Presented by Dr. PISKO.

The patient, Michael F., was 29 years of age, a subway guard by occupation. The Christmas before, he had had gonorrhœa, and four months thereafter he noticed two lesions on his penis. A month later he noticed a rash all over his body. In regard to this rash he stated that it had at all times been itchy, especially so at night. The Sunday previous to his being shown, the patient said a white spot had appeared under his tongue, which the speaker discovered on Tuesday. When he first came to see Dr. Pisko a few weeks previously, he had a condition which looked very much like a distinct and marked pityriasis rosea. Whether he ever had this condition or not the speaker did not know, although he doubted it. There were several lesions of the macular type with large pustules, especially one around the right clavicular region and around the anus. There were also two pustular lesions on the neck. The patch on the tongue resembled a hypertrophied mucous patch. The glands in this region were very much enlarged. The patient had a very marked pharyngitis and the tonsils were enlarged.

DISCUSSION.

Dr. GOTTHEIL said he would like to ask Dr. Pisko if he meant a hypertrophic mucous patch or a condyloma. He said there was a mucous patch at the base of this mass, but the latter was a papilloma and had nothing to do with the luetic lesion.

Dr. PAROUNAGIAN said that he agreed with Dr. Pisko's diagnosis of the lesion on the tongue being a mucous patch, as he had seen a case last Spring at the Gouverneur Hospital service which was almost a counterpart of this case, only the lesions were situated on the lip; they were elevated, and had it not been for the accompanying symptoms, he would have hesitated to make the diagnosis of a mucous patch.

LEPRA TUBEROSA. Presented by Dr. OCIS.

Mrs. M., aged 49 years, was born in Roumania and had been in the United States for ten years. Up to three years before her presentation she had been free of any cutaneous diseases. She noticed a number of small nodules appearing on both legs. Then quickly thereafter, nodules appeared on the arms and chest. Those on the face appeared last. On the face, arms, legs, as well as over both breasts, were an innumerable number of nodules, varying in size from a pin head to that of a hazel nut. They were reddish-brown, some bronzed in color, while the smaller ones were yellowish tinged. They were not, except in the face, grouped, but isolated and distinct. They were more extensive on the back of the hands, forearms and legs. The skin over the nodules was not broken, nor was

there any ulceration on the body. They were soft to the touch, but showed infiltration at the edges and at the base. On the face the nodules were fewer in number, were considerably larger than on the body, were more waxy in color, and showed a tendency to grouping, especially on the chin and cheek. The body was comparatively free. *Lepra bacilli* were demonstrable in the nasal secretions.

PITYRIASIS RUBRA (HEBRA) (?). Presented by DR. WISE.

This case had been presented before the Section on Dermatology, N. Y. Academy of Medicine, by Dr. Lapowski, and before the N. Y. Dermatological Society by the speaker, on previous occasions.

DR. WISE said that a variety of conflicting diagnoses had been made in the case, among them being that of pityriasis rubra pilaris of Dévèrgie. The well-marked and almost universal atrophy and the absence of all nail changes and of general follicular involvement, spoke against such a diagnosis. The hardening of the palms, the speaker thought, may have been attributed to the life-long occupation of the patient, that of a bricklayer. While the few follicular comedones on the dorsum of the hands was explained by the prolonged use of tar and resorcin, to which those portions of the skin were subjected. A tentative diagnosis of pityriasis rubra of Hebra, of the chronic type, was suggested on account of the following symptoms: almost universal atrophy; diffuse, dusky redness; alopecia; ectropion; generalized adenitis; patient constantly felt cold, unless well clothed.

DISCUSSION.

DR. GOTTHEIL said he made a plea for the dropping of the term pityriasis rubra pilaris altogether and calling the affection lichen ruber.

DR. WEISS said he saw a case like this under Hebra. He called it lichen ruber. It was not one of Hebra's fourteen earlier cases that died, but one which got well under arsenical treatment.

DR. HOWARD FOX remarked that in this case, which had been shown a number of times at dermatological meetings, the opinions had been somewhat divided between a diagnosis of pityriasis rubra (Hebra) and pityriasis rubra pilaris (Dévèrgie). He was inclined to agree with Dr. Wise's diagnosis of pityriasis rubra of Hebra. In the present case the eruption had been universal for seven years, a condition which he had never seen in pityriasis rubra pilaris. In this disease the eruption was not often universal, and at all events seldom remained so for more than a short period of time. Although the keratosis of the palms favored the diagnosis of Dévèrgie's disease, the presence of the lesions, which were apparently atrophic, certainly spoke against such a condition.

DR. MACKEE maintained that the case was not one of pityriasis rubra pilaris (Dévèrgie). The follicular keratosis of the hands appeared to be the result of a strong tar ointment. The atrophy, which was so manifest in this case, never occurred in the Dévèrgie type, and the patches of normal skin that Dr. Fox spoke of as being so typical of pityriasis rubra pilaris had never occurred in this case. The disease appeared to belong, nosologically, to the Hebra type, although it should be mentioned that several men, including Arndt, Fordyce and Ormsby, hesitated to make a diagnosis and thought that the case was rather unusual if not unique in its features.

DR. OULMANN said this man complained of shivering when he undressed, which is one of the symptoms of the Hebra type; he had the loss of hair at the eyebrows and showed the stage which Brocq described as dermatitis exfoliativa. He believed that this patient would develop tuberculosis, as these cases usually did, and would die of that disease.

EPIDERMOLYSIS BULLOSA, ACQUIRED. Presented by DR. OCHS.

The patient, H. M., aged 40, male adult, struck his hand violently the January previously (10 months before), and noticed that within twelve hours, at the site

of the bruise, a "blister" formed. This lasted a few days and dried up. The patient noticed that, since that time, whenever he bruised his hand, or forcibly struck his fingers, a number of bullæ would form. These bullæ were hemorrhagic, varying in size from a pin head to a bean. The appearance of bullæ was usually preceded by a slight itch, and within twenty-four to forty-eight hours, a tender hemorrhagic bulla appeared. This lasted but a short time and either ruptured or dried up, leaving behind it a slight pigmentation, and one or two had left superficial cicatrices. Both hands were equally affected and the condition only went up to the wrist (namely, the exposed parts).

DISCUSSION.

DR. GOTTHEIL said that he had been told there were cases of acquired epidermolysis bullosa, but he had never seen one. The affection, as he understood it, was a congenital abnormality. The lesions here were all on exposed, accessible parts of the body. He stated that he should rather expect some spinal disease or some central disease, than agree to a diagnosis of acquired epidermolysis bullosa.

DR. WISE stated that a considerable literature existed on the subject of the "acquired" type of epidermolysis bullosa. The tendency to the disease was in all probability congenital, but the lesions were sometimes acquired in adult life.

DR. HOWARD FOX agreed with Dr. Wise. It was only necessary to read the literature to find out that cases of epidermolysis bullosa may appear for the first time in adult age. The history of the formation of bullæ following traumatism, both accidentally and purposely produced, would seem to sustain the diagnosis of epidermolysis bullosa. The remarkable symmetry of the eruption upon the hands and elbows spoke strongly against any self-inflicted eruption.

DR. OCHS said that this patient, if he rested his elbow on a desk for a while, would develop bullæ over the bony prominences within twelve hours. One lesion which was on the back of the thumb of the left hand was not there the day previous. Morvan's disease had been suggested, but was ruled out, as there were no whitlows.

DR. HOWARD FOX said the sensation of heat and cold should be tested to rule out Morvan's disease.

DR. MACKEE thought that there was a great deal of room for investigation regarding the possibility of acquired epidermolysis bullosa and the relationship existing between this and the various other dermatoses of a bullous nature. Dr. Schalek had reported a case of apparent pemphigus vulgaris which had gradually changed into epidermolysis bullosa. Dr. Fordyce had several times presented a patient before the New York Dermatological Society who had had repeated attacks of what appeared to be a bullous type of erythema multiforme. At times the outbreaks were highly suggestive of pemphigus. Finally the patient demonstrated marked signs of epidermolysis bullosa. The speaker, together with Dr. Wise, at Dr. Fordyce's clinic, had had a patient under observation for some time, who, several years ago, developed a typical attack of pemphigus. Later, the bullæ ceased to develop spontaneously and the case resembled epidermolysis bullosa.

While the speaker had never seen a case of pure epidermolysis bullosa develop in an adult, such cases should, at least until we learned more about them, be cited as examples of epidermolysis bullosa, at least in a clinical sense.

It was possible, of course, that the foundation for the disease might exist at birth, but the manifestations of the affection did not become visible until a later date. Such a phenomenon was seen, as stated by Dr. Fox, in psoriasis and also in other diseases.

CHANCRE OF THE THUMB. Presented by DR. PAROUNAGIAN.

The patient, J. M., male, aged 53 years, was born in Ireland and was married. About three and one-half months ago he had a dispute with another man and had hit him on the mouth with his left fist. An abrasion took place, which healed

in a few days, and about two weeks later a sore developed at the site of the injury, which would not heal. According to the patient's statement, about one month later a general eruption appeared. The initial lesion was located on the thumb of the left hand, situated on the dorsal aspect of the metacarpo-phalangeal articulation, about one inch by one and one-half inches in diameter. It was red, indurated, having the characteristic appearance of a Hunterian chancre, of unusual dimension.

No spirochætæ examination was made in view of the typical maculo-papular eruption with general adenopathy accompanying the same. There were extensive mucous patches in the mouth and throat. A careful examination of the genitals revealed no lesions. A Wassermann test was made and was strongly positive. In conclusion, Dr. Parounagian stated that the condition was very much modified, as a mercurial injection had been given before the presentation.

DISCUSSION.

DR. GOTTHEIL said he showed a case to the Society some years ago with a precisely similar lesion on the index finger. What struck him about these lesions was their hypertrophic nature. Dr. Parounagian told him that a few days ago the lesion was much more elevated. In his case of chancre, the lesion looked like a large exuberant patch of granulation tissue, rather than a typical sclerosis.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(Sept. 12, 1914, lxiii, No. 11.)

Abstracted by WILLIAM H. BAUGHMAN, M.D.

THE DESICCATION TREATMENT OF CONGENITAL AND NEW GROWTHS OF THE SKIN AND MUCOUS MEMBRANES. WILLIAM L. CLARK, p. 925.

The effectiveness of Clark's method of desiccation is based on the production and application of sufficient heat to cause rapid dehydration without actual car-

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bonization. Desiccation is applicable in cases of accessible localized benign and malignant growths. The advantages claimed for it are: (1) the operation is rapid, effective and bloodless; (2) the method is precise; (3) no instrument is inserted in the tissue; (4) the anæsthetizing property of the current; (5) the devitalizing action on abnormal cells; (6) sterilization and rapid repair; (7) the sealing of blood and lymph channels; (8) the good cosmetic results.

The disadvantages are the expense and the clumsiness of the apparatus. The apparatus and technique are described in detail.

(*Ibidem*, Sept. 19, 1914, lxiii, No. 12.)

SARCOID OF BOECK. S. E. SWEITZER, p. 991.

A review of the literature and a description of the four types of sarcoid as classified by Darier in 1910. The author reports the macroscopical and microscopical findings in a case of multiple benign sarcoid of Boeck, also the results of animal inoculation. Those interested in the subject will find in this paper a valuable contribution to the literature on sarcoid growths.

A CASE OF SPOROTRICHOSIS. L. A. DERMODY AND C. MARTIN, p. 1028.
Case report.

(*Ibidem*, Sept. 26, 1914, lxiii, No. 13.)

FURTHER STUDIES OF THE THOMPSON-McFADDEN PELLAGRA COMMISSION. A SUMMARY OF THE SECOND PROGRESS REPORT. J. F. SILER, P. E. GARRISON AND W. J. MACNEAL, p. 1090.

Important factors in the occurrence and distribution of pellagra are congestion of population with poor hygienic conditions, close association with pre-existing cases, and inefficient disposal of human excrement. The investigation of a transmitting agent, the bacteriology, and the results of animal experimentation have been inconclusive.

ATTEMPTS TO TRANSMIT PELLAGRA TO MONKEYS. C. H. LAVINDER, EDWARD FRANCIS, R. M. GRIMM AND W. F. LORENZ, p. 1093.

Several varieties of monkeys were inoculated with pellagrous material. One case gave suggestive results in that the forearms, the posterior surface of the hands and the fingers became swollen, scaly and cracked, with a slight serous exudate and denudation of hair. This monkey afterward regained his usual condition.

THE TREATMENT OF PELLAGRA. CARL VOEGTLIN, p. 1094.

In addition to a discussion of the older and the more recent methods of treatment, the author suggests the investigation of various recently discovered food constituents.

(*Ibidem*, Oct. 3, 1914, lxiii, No. 14.)

SPOROTRICHOSIS IN THE MISSISSIPPI BASIN. RICHARD L. SUTTON, p. 1153.

The great majority of cases reported in this country have occurred in the Mississippi Basin. Report and description of five cases in this locality.

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PELLAGRA IN MINNESOTA. DEANE R. BRENGLE, p. 1157.

Four cases previously reported to the State Board of Health, and a recent fifth case described by the author.

PEMPHIGOID OF THE NEW-BORN (PEMPHIGUS NEONATORUM),
WITH REPORT OF AN EPIDEMIC. HAROLD N. COLE AND H. O.
RUB, p. 1159.

A review of the literature of pemphigus neonatorum and a report of an epidemic occurring in a maternity hospital. The authors also discuss in detail the relations between this disease and impetigo.

AUTOSERUM TREATMENT IN DERMATOLOGY. WILLIAM S. GOTTHEIL
AND DAVID L. SATENSTEIN, p. 1190.

The favorable effect of injecting autogenous serums in various dermatoses was especially noticeable in cases of psoriasis, this condition being rendered much more amenable to treatment than it is usually. The theoretical basis, as well as the nature of the serum when injected, is unknown. The technique employed is relatively simple and is described by the authors.

(*Ibidem*, Oct. 10, 1914, lxiii, No. 15.)

Abstracted by WM. H. BAUGHMAN, M.D.

THE ASSOCIATION OF ERYTHEMA NODOSUM AND TUBERCULOSIS.
P. H. FOERSTER, p. 1266.

A number of cases, particularly in children, have been recorded in recent years. While the aetiology of erythema nodosum remains unsolved, evidence in favor of a relationship between the two conditions is increasing. The author records two cases which came under his observation.

DISEASES AND NEW GROWTHS OF LYMPHATIC ORIGIN. G. ARNDT,
p. 1268.

The first manifestations of lymphadenosis may be in the skin. The essential pathologic change in lymphadenosis is a generalized hyperplasia of the lymphatic hæmatopoietic tissue; the blood picture determining whether it is of the aleukæmic, subleukæmic, or leukæmic form.

The changes in the skin lead to a classification under two heads: (1) leukæmids, changes which are not characterized and not distinguishable clinically or histologically from similar affections of other origin; (2) lymphadenoses, where the changes represent proper localizations of the lymphadenotic process.

Among the non-characteristic skin lesions of the first group are purpura, prurigo, pruritus without visible skin lesions, and universal exfoliative erythrodermia. The pathologic changes in the skin are not diagnostic; a histologic examination of a lymph node and repeated examinations of the blood are necessary.

The lymphadenoses are divided into a universal form, and a circumscribed form causing flat infiltration, nodes or tumor-like swellings. The universal form being further divided by the author into four groups, according to the histologic changes of the lymphadenoid tissue: (1) lymphadenotic (lymphaticleukæmic); (2) lymphosarcomatous; (3) mycotic; and (4) lymphogranulomatous erythrodermia. The blood picture is of great value if it shows characteristic changes, otherwise it is of no use.

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The universal and the circumscribed form never merge into one another.

The circumscribed form is more easily diagnosed than the universal form, though an absolutely certain clinical diagnosis is impossible. The blood picture varies. The characteristic location of the lesions is the face. The lesions are more or less well defined, macular, slightly elevated patches, and semi-globular projecting tumors developing close together and turning one into the other. The size varies widely. The color is a peculiar yellowish-brown or yellowish-brown red. The consistency of the tumor is always somewhat elastic and œdematous. The changes never go below the subcutis and rarely involve the mucous membrane. There are never any signs of a retrogressing metamorphosis. True scarring is never observed. The subjective symptoms are slight, and consist of a burning sensation and a pain on pressure. Multiple symmetrical enlargement of lymph-nodes is important, if present, though they may be of normal size; the histologic picture showing a pure lymphocytic infiltration of the skin and other changes which are absolutely typical. The pathogenesis and ætiology have both yet to be solved.

PARESIS PATIENTS TREATED WITH INTRASPINAL INJECTIONS OF SALVARSANIZED SERUM. A BRIEF REPORT. L. B. PILSBURY, p. 1274.

"Six show improvement in some respects, one is no better, and four are dead." A detailed report of the cases treated is given.

RESULTS OF ONE HUNDRED INJECTIONS OF SALVARSANIZED SERUM. C. EUGENE RIGGS AND ERNEST H. HAMMES, p. 1277.

The authors report on a number of cases of nervous syphilis treated with salvarsan according to the Swift-Ellis method. Tabetic cases, especially, showed clinical improvement and serobiologic reductions; other forms showed various results. The reaction was usually slight, one case only showed alarming symptoms.

(*Ibidem*, Oct. 17, 1914, lxiii, No. 16.)

NEW METHOD OF TREATMENT OF LUPUS VULGARIS. M. L. HEIDINGSFELD, p. 1352.

A presentation of cases treated locally with a saturated solution of trichloacetic acid. Good results.

GENERALIZED NEUROFIBROMATOSIS (VON RECKLINGHAUSEN'S DISEASE). REPORT OF A CASE SHOWING A SUPERFICIAL RESEMBLANCE TO HODGKIN'S DISEASE. CHARLES A. ELLIOTT, AND ARTHUR F. BEIFELD, p. 1358.

(*Ibidem*, Oct. 24, 1914, lxiii, No. 17.)

THE TREATMENT OF HEART INVOLVEMENT IN SYPHILIS, BASED ON A STUDY OF 300 CASES. HARLOW BROOKS AND JOHN CARROLL, p. 1456.

No routine method of treatment was followed; the treatment being adapted, so far as possible, to each individual case.

Early cases receive only antisiphilitics, circulatory treatment *per se* being considered unnecessary and probably unwise.

In late cases, circulatory treatment is used in addition to the specific treatment. Hygienic measures are indicated in any abnormal heart condition, whatever its cause. The treatment must be uninterrupted to secure steady progress and permanent results. Clinical improvement follows in practically all cases treated, though it may be only temporary.

(*Ibidem*, Oct. 31, 1914, lxiii, No. 18.)

THE LATE MANIFESTATIONS OF INHERITED SYPHILIS, WITH SPECIAL REFERENCE TO ARTERIAL DISEASE. HENRY FARNUM STOLL, p. 1538.

Close inquiry into the family history is of great importance, a clue to the causes of many conditions being frequently found. Both the Wassermann test and the luetin test should be used.

A common effect of congenital syphilis is an interference with normal mental or physical development.

The majority of clinical symptoms are due to changes in the arteries with the secondary consequences. Congenital, as well as acquired, syphilis causes changes in the aorta. Syphilis is an important factor in the causation of arterial and cardiac lesions.

LATENT AND TERTIARY SYPHILIS IN DISEASES OF THE NOSE AND THROAT. CHARLES R. C. BORDEN, p. 1563.

The early recognition of tertiary lesions in the nose and throat is highly important, not only because of the rapid destruction these organs may undergo, but because of the many cases of failure of operations where an undiagnosed latent syphilis has been present. Proper methods of diagnosis should be used where there is any cause to suspect the presence of syphilis.

(*Ibidem*, Nov. 21, 1914, lxiii, No. 21.)

CARCINOMA, SYPHILIS AND TUBERCULOSIS COEXISTENT IN THE SAME PATIENT, WITH REPORT OF A CASE. ELLIS KELLERT, p. 1819.

UNFAVORABLE COMPLICATIONS FOLLOWING AN INTRADURAL INJECTION OF NEOSALVARSAN. ALFRED GORDON, p. 1851.

(*Ibidem*, Nov. 28, 1914, lxiii, No. 22.)

THE INTRASPINAL TREATMENT OF SYPHILIS OF THE CENTRAL NERVOUS SYSTEM WITH SALVARSANIZED SERUM OF STANDARD STRENGTH. REPORT OF CASES. HANSON S. OGILVIE, p. 1936

Because of the anatomical structure of the central nervous system, any form of medication intended to produce an effect on a pathological process within it, must be administered subdurally. The use of neosalvarsan for this purpose has proved to be too hazardous. The technique employed by the author in preparing and injecting intraspinally a serum of known salvarsan content is given. Preliminary reports of a number of cases so treated show varying degrees of im-

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provement. The author emphasizes the point that time alone can tell if the results are permanent or transitory.

The original paper should be read by those interested in the subject.

AMERICAN JOURNAL OF ROENTGENOLOGY.

(June, 1914, i, No. 8, New Series.)

Abstracted by WILLIAM H. BAUGHMAN, M.D.

A FURTHER CONSIDERATION OF THE ROENTGEN DIAGNOSIS OF LUTETIC SKELETAL MANIFESTATIONS. PERCY BROWN, p. 322.

The value of Roentgen examination in hereditary lutetic cases is its power to reveal all osseous manifestations in cases showing one or more other signs, and in determining the correct underlying cause of symptoms which might be attributed to one of several possible causes. For educational purposes and for the verification of clinical diagnoses, it should be used more frequently than it is at the present time.

ARCHIVES OF THE ROENTGEN RAY.

(October, 1914, No. 171.)

Abstracted by CHAS. GOOSMANN, M.D.

THE COMPARATIVE VALUE OF X-RAYS AND RADIUM IN THE TREATMENT OF MALIGNANT GROWTHS. FRANCIS HERNAMAN-JOHNSON, p. 174.

The author discusses briefly the recent discoveries on the physical properties of gamma rays, which tend to show that both these and X-rays are identical in nature, differing only in wave length and penetrating power—the hardest Roentgen rays (Coolidge tube not mentioned), after filtration through 3 mm. of aluminum, being one-fifth or one-sixth as hard as gamma rays. “It is, at any rate, certain that in cancer the therapeutic effects of hard filtered rays closely approach those of radium. On the other hand, a wide gap yawns between the X-ray results of to-day and those of even a few years ago. A claim often set forth in papers and books on radium therapy is that rodent ulcers have been cured by radium after many months of X-ray treatment had proved ineffective. My own experience would lead me to believe that sharp doses of filtered X-rays, extended over a period not exceeding one month, will cause the healing of any rodent ulcer which is amenable to radio-activity in any form; success or failure is largely a matter of technique. The employment of rays which are too soft, or the use of insufficient doses extending over a long period, does positive harm. . . . Some years ago Sir James Mackenzie Davidson applied hard gamma rays with success to X-ray dermatitis. At this time it was taken to mean that radium possessed some therapeutic activity essentially different from that of the Roentgen bulb. Lately, however, Dr. Jean Cluget, of Paris, has caused the retrogression of an X-ray carcinoma by applying to it heavily filtered rays from a hard tube. That the injuries wrought by Roentgen-therapy in the past can be combated to-day by

the same agent, is, I think, the most striking proof of progress which it is possible to furnish."

Hernaman-Johnson admits, however, that so long as the X-rays we use differ considerably in penetrating power from the hard gamma rays of radium, cases will occur which will be better dealt with by the latter agent. This applies particularly to cancer of mucous surfaces (vagina and rectum); here the X-rays should be used as an adjunct to the radium tube, which cannot of itself affect a sufficiently wide area.

In cancer of the breast the result of modern X-ray therapy is so good that, so far as external treatment is concerned, he does not think radium has any advantages. In post-operative preventive irradiation, also, Roentgen therapy approaches more nearly the requirements than does treatment by radium.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(September, 1914, cxlviii, No. 3.)

Abstracted by R. C. JAMIESON, M.D.

CHOLESTERIN ANTIGENS IN THE WASSERMANN REACTION AND THE QUANTITATIVE TESTING OF SYPHILITIC SERA. J. G. HOPKINS AND J. B. ZIMMERMAN, p. 390.

The authors give their results in the technique of the reaction and think it advantageous to add cholesterol or to use substances which render the test more delicate, provided, however, that the addition of the substance does not cause a positive reading in a non-syphilitic blood.

They also believe that the strength of the syphilitic blood can be determined better by varying the amount of the serum used than by varying the amount of the antigen.

THE VALUE OF PETECHIÆ IN DIAGNOSIS AND PROGNOSIS. H. W. EMSHEIMER, p. 404.

This article mentions a few cases in which petechial lesions were found and were an aid in determining the proper diagnosis in otherwise obscure cases.

He believes that the prognosis in cases with hæmorrhage is more apt to be grave, though not necessarily fatal.

(*Ibidem*, October, 1914, cxlviii, No. 4.)

GRANULOMA FUNGOIDES. M. G. WOHL, p. 754.

This is a report, in full, of a case of mycosis fungoides with an excellent histological description. It presents nothing new in ætiology or treatment.

ARCHIVES OF INTERNAL MEDICINE.

(June, 1914, xliii, No. 6.)

Abstracted by R. C. JAMIESON, M.D.

THE TITRATION OF WASSERMANN REAGENTS. LOYD THOMPSON, p. 904.

This article explains in detail the author's method of finding the titration dilutions and antigenic units, but is very much condensed and not suited for abstracting.

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ATTEMPTS TO PRODUCE SCARLATINA IN MONKEYS. CHAS. KRUMWEIDE, JR., MATTHIAS NICOL, JR., AND JOSEPHINE S. PRATT, p. 909.

The results of the experiments of these workers add a contribution to the literature of unsuccessful attempts to inoculate the lower animals with streptococcus cultures and exudates and discharges from scarlet fever cases.

GERMAN MEASLES; AN EXPERIMENTAL STUDY. ALFRED F. HESS, p. 913.

These experiments included bacterial examination of the blood, inoculation of blood into monkeys and a cellular examination of blood during incubation. The results of inoculation were either negative or so uncertain that they could not be depended upon, but Hess found that there was a definite increase of lymphocytes preceding the appearance of the exanthem.

BOSTON MEDICAL AND SURGICAL JOURNAL.

(June 4, 1914, clxx, No. 23.)

Abstracted by CHARLES T. SHARPE, M.D.

THE USE OF CONCENTRATED NEOSALVARSAN FROM A CLINICAL AND SEROLOGICAL STANDPOINT. J. HARPER BLAISDELL, p. 868.

Summary. Technique. 1. Intravenous injections of 20 cc. of fluid with glass syringe, needle and Swift holder, most simple method. 2. A steady hand and careful adjustment of syringe to needle is necessary. 3. The time of actual injection averaged thirty seconds.

Sequelæ. 1. Three hundred and forty-one injections given. 2. No patient required the use of the recovery rooms because of untoward sequelæ. 3. Dizziness, headaches and diarrhoea in mild degree recorded in some instances during the first twenty-four hours, especially after the first injection. 4. Experienced operator and strict aseptic technique render danger negligible.

Therapeutic Efficiency. 1. Twenty-four untreated cases were given four injections of concentrated neosalvarsan, dosage 0.45 gram, at weekly intervals, followed by a Wassermann, seven days later. 2. Active symptoms and lesions yielded readily. 3. The Wassermann reaction was little changed. 4. Active early cases or long-standing cases showed the least serological change. 5. Serologically, the concentrated neosalvarsan was inferior to old salvarsan.

CANCER OF THE TONGUE BASED UPON THE STUDY OF OVER ONE HUNDRED CASES. JOSEPH C. BLOODGOOD, p. 872.

In the past, surgeons have apparently removed too much of the tongue and have performed too extensive operations upon the glands of the neck. Now this is theoretically incorrect, because cancer of the tongue infiltrates into the glands of the neck through the floor of the mouth. Should the glands be involved and the floor of the mouth not be removed, one could hope for little, if anything, from such an operation. If the glands of the neck are not involved, this does not preclude infiltration of the floor of the mouth.

The author removed half the tongue, half the floor of the mouth, half of the lower jaw and the glands on the same side of the neck in one piece, for a lesion

on the right side of the tongue. The microscopic examinations showed that the floor of the mouth was infiltrated but the glands were free.

A number of successful operations are recorded, and the author believes that this method insures success. The technique of the operation is described.

(*Ibidem*, Sept. 10, 1914, clxxi, No. 11.)

SYMPOSIUM ON SYPHILIS, WITH ESPECIAL REFERENCE TO ITS IMPORTANCE IN MASSACHUSETTS.

- I. SYPHILIS IN MASSACHUSETTS. ABNER POST.
- II. SYPHILIS OF THE EYE IN HEREDITARY SYPHILIS. GEORGE S. DERBY.
- III. VASCULAR AND CARDIAC SYPHILIS. GEORGE G. SEARS.
- IV. PRIMARY SYPHILIS OF THE TONSIL. C. MORTON SMITH.
- V. SYPHILIS OF THE LUNG. E. A. BURXHAM.
- VI. THE RELATION OF SYPHILIS TO INTERNAL MEDICINE. DAVID L. EDSALL.
- VII. WHAT THE CITY SHOULD DO TO CONTROL SYPHILIS. THOMAS B. SHEA.

Dr. Post points out the absence of available statistical information regarding the prevalence of this disease, and shows that even in the reports of institutions the information that is available varies so that there is reason to doubt their value. The differentiation in reports between syphilis and gonorrhœa is by no means prevalent, and a wide campaign of education is necessary to show the importance of the disease. The disease has not been taught as it should, and all medical schools should give it a place in their curriculum.

The second article in the symposium, by Derby, deals with interstitial keratitis only. The author believes that interstitial keratitis is always syphilitic in origin, usually on an hereditary basis. Igersheimer claims that in at least 90% to 95% of primary, untreated interstitial keratitis, other signs of syphilitic diseases are to be found. From a ten-year-old boy with interstitial keratitis Igersheimer was able to demonstrate in a piece of excised corneal tissue a single spirochæta. Mercury, iodide and salvarsan are all powerless to improve, to any extent, the condition of the eye. Much was expected of salvarsan, and certain writers report success with it, but general opinion does not bear this out. However, the patient should have the proper general care, and with anti-syphilitic treatment the eyes do better than if this care is neglected, and there should be coöperation between the oculist and the syphilologist. A case of interstitial keratitis is a guide-post to a syphilitic focus in the community.

Sears quotes Mallory on the pathology of vascular and cardiac syphilis, and these quotations are so full of good material that one is tempted to reproduce the whole article, but space will not permit. Endocarditis, due to the treponema pallidum, resembles more closely toxic endocarditis than the common forms due to infection. Its most common manifestation, clinically, is in aortic regurgitation, which is more often due to syphilis than to all other causes combined. Though the treponemata are often found disseminated through the myocardium in congenital cases, they occur there very infrequently in the acquired form, and except for some broadening of the connective tissue septa, the direct injury produced is not evident, myocardial syphilis being essentially syphilis of its blood vessels.

An obliterating endarteritis of the smaller branches of the coronary arteries leads to necrosis and the formation of a gumma, which in its evolution produces fibrous myocarditis, which, if extensive enough, may go on to cardiac aneurysm. Gummata particularly affect the septum between the auricles and ventricles. A

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tiny gumma in the bundle of His is often the cause of heart block. In aortic regurgitation the weight of evidence favors the presence of syphilis. As to treatment, Sears thinks salvarsan has a distinct place in the therapy of syphilitic cardiac disease. Small and repeated doses should be the rule.

Smith reports 44 cases of primary syphilis of the tonsil, 23 male and 21 female; of these, 32 were positive and 12 probable; the right tonsil was affected in 14; the left in 8, both in 3, and not stated in 19.

Fournier gives the following important diagnostic signs:

1. Unilateral occurrence.
2. Persistence of sore throat.
3. Induration.
4. Character of glandular enlargement.

One should always look with suspicion on a sore throat that has lasted over two weeks, and does not respond to the treatment of simple angina, and is accompanied by pronounced glandular enlargement on one side only. At the end of a week or ten days, the lymph glands under the angle of the jaw or beneath the sterno-cleido-mastoid muscle, on the affected side, undergo a non-inflammatory enlargement. This is the satellite bubo, which is usually larger and more painful than when occurring in the groins. There is no reddening or involvement of the skin, but the mass takes on a smooth, brawny hardness without suppuration. This glandular reaction is of the greatest diagnostic importance, beginning soon after the appearance of the initial lesion; its peculiar characteristics remain until the second stage of the disease is well established. In the differential diagnosis one has to consider: cancer, late syphilis, abscess of the tonsil, and perhaps diphtheria, and Vincent's angina. Ferro called attention to a valuable diagnostic sign, viz., in abscess the patient opens his mouth with great difficulty so that it is impossible to get a good view of the tonsils, and digital exploration is likewise unsatisfactory; when this can be done there may be a sense of fluctuation, which is not present with chancre. Glands do not enlarge in late syphilis, and are only involved in cancer after the lapse of several months.

Burnham states his conclusions as follows:

1. Syphilis produces in the lung pathological changes, which, in turn, produce symptoms and physical signs which are identical with those produced by pulmonary tuberculosis.

2. That the two conditions are confounded by our most skilled diagnosticians.

3. That great injustice is done the patients and great suffering often inflicted upon the family by sending cases with lung syphilis to tuberculosis sanatoria.

4. That greater care must be exercised in differentiating the two conditions, and especially those cases where there are signs of infiltration and open lesions in which tubercle bacilli cannot be demonstrated.

The relation of syphilis to internal medicine is discussed by Edsall. Of 1,696 cases tested, 12% reacted and 9.4% gave a perfectly definite reaction. These cases Edsall has grouped according to manifestations, as follows: cardio-vascular, 45 cases; the central nervous system, 33; gastro-intestinal, 46; of these, 15 later proved to be of the central nervous system, 9 were chiefly ulcers, but three consisted of a very extraordinary infiltration of the stomach; 4 cases of cancer of the stomach, or so diagnosed, 12 of cirrhosis of the liver, 6 that presented symptoms of gall-stones or pancreatic disease; nephritis, 8; splenomegaly, 4; intestinal adhesions, 4; 3 of visceroptosis and neurasthenia; and 3 of simple general neurasthenic symptoms.

The difficulty of diagnosing is shown by the fact that three of the cases with gastric symptoms and one case with colonic symptoms were operated on after very careful study under the impression that they had severe local disease of the parts mentioned, but nothing was found at operation.

The concluding article of this symposium is a plea for the State care of the

indigent syphilitic with the compulsory reporting of cases. "This disease should be fought from a health standpoint entirely, and with the same methods that are now in use for other infectious diseases."

INTERSTATE MEDICAL JOURNAL.

(March, 1914, xxi, No. 3.)

Abstracted by C. T. SHARPE, M.D.

LUPUS AND THE LUPOIDS. WILLIAM P. CUNNINGHAM, p. 365.

Cunningham discusses those diseases of the skin that are directly or conjecturally dependent on tuberculosis. He makes a plea for the simplification of the nomenclature, and classifies all the tuberculous skin lesions under the above heading.

OBITUARY.

JAMES SULLIVAN HOWE, M.D.

Dr. Howe was born in Brookline, Mass., July 7, 1858, and prepared for college at St. Mark's School, Southborough. He entered Harvard with the class of 1881, but left at the end of his freshman year to enter the Harvard Medical School, receiving his degree of M.D. in 1881. While in college he was actively interested in athletics, playing both baseball and football; this fondness for out-door sports continued through life.

For a year after his graduation he served as House Physician at St. Elizabeth's Hospital, and during the next year practiced medicine in New York City, at the same time attending the Post-Graduate Medical School, from which he received an honorary degree of M.D. in 1883. The following year was spent in Vienna studying diseases of the skin. During the summer of 1884 he returned to Boston and began the practice of dermatology, which he continued until last August, when a cerebral hæmorrhage occurred, resulting in death, Nov. 21, 1914.

Dr. Howe served the Boston Dispensary as District Physician, and since 1890 had been connected with the Skin Department, being the Senior Physician at the time of his death.

He was also dermatologist at the Boston City Hospital for nearly twenty years and Professor of Dermatology in Tufts College Medical School for fourteen years. He was an able teacher, and his clinical demonstrations will always be remembered by his students. He was a careful observer and a skillful dermatologist, and while not a frequent writer on medical subjects, his reported cases of bullous dermatitis following vaccination was a distinct addition to medical literature.

Dr. Howe had long been a member of the American Dermatological Association, serving as Vice-President in 1912; a member of the American Medical Association, Massachusetts Medical Society, and the Boston Dermatological Club. He was also a member of the Harvard Varsity Club, the Harvard Club of Boston, and the Brookline Country Club.

He was fond of nature and an expert with rod and gun. He was a delightful companion, a staunch friend, a most gracious and genial host. He will be greatly missed. A widow, a son and daughter survive him.

C. M. S.

BOOK REVIEW

MEMORIAL NOTE.

On behalf of the American Dermatological Association, the Council direct the publication of the following memorial note:

The members of the American Dermatological Association wish to record their sense of loss in the death of Dr. James Sullivan Howe. A fearless proponent and a skillful physician, obstacles failed to stay his energy or to warp his sympathy. Upright himself, he could trust others. Ambitious, he ignored difficulties. The Association rejoices in his standards and, being in some sense his heir, in their inheritance.

BOOK REVIEW.

GENITO-URINARY DISEASES AND SYPHILIS. By EDGAR G. BALLENGER, M.D., Adjunct Clinical Professor of Genito-Urinary Diseases, Atlanta Medical College; Editor Journal-Record of Medicine; Urologist, Towsley Memorial Hospital; Genito-Urinary Surgeon to Davis-Fisher Sanatorium; Urologist to Hospital for Nervous Diseases, etc., Atlanta, Ga. Assisted by OMAR F. ELDER, M.D. The Wassermann Reaction, by J. EDGAR PAULIN, M.D. Second Edition, Revised, with 109 Illustrations. *E. W. Allen & Co.*

As the title shows, the work is divided into two parts, Genito-Urinary Diseases and Syphilis. Attention is called to the treatment of incipient gonorrhœa by sealing argyrol in the anterior urethra with collodion, in an endeavor to abort the disease.

The book is well written and much useful information is contained therein. The improvement in the administration of salvarsan by the intravenous method is outlined; the authors recommend a preliminary puncture of the skin with a stiletto. This is an improvement on the old method of cutting down, but is not to be compared with the results obtained by an immediate puncture of the vein with the needle. The remarkable progress in the treatment of syphilis receives thorough consideration; no mention, however, of intra-spinous treatment is made.

C. T. S.

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EDITORIAL

SECTION ON SYPHILIS OF THE MEDICAL SOCIETY OF THE STATE OF NEW YORK.

The attitude of the public, and quite extensively of the medical profession, toward syphilis has always been one of antipathy and secrecy. The opprobrium heaped upon this infectious disease peculiar to man, found endemic in every clime and among all tribes, is due to the fact that most frequently it follows lustful gratification, a result of the powerful working of that force which irresistibly influences the acts and relations of all life. But a broader vision is changing this attitude and syphilis is assuming a position comparable to tuberculosis and the other infectious diseases; upon it is being turned the search-light of publicity, and it is receiving the attention from master minds that its importance demands.

The Medical Society of the State of New York, recognizing the magnitude to which syphilis has attained, has ordained that a section shall exclusively consider this disease at its 109th annual meeting in 1915; and so, probably for the first time in the history of the proceedings of any large and influential medical association, lues will be then and there presented in a manner befitting the medical, sociological and economical importance of this protean disease. In Buffalo, at this convention there will be assembled for the authoritative consideration of syphilis men of wide experience, of deep thought and of great scientific attainment, who will give the papers and discussions on the various phases of this disease.

Under the able chairmanship of Dr. John A. Fordyce, assisted by his section secretary, Dr. Lesser Kauffman, a program is being arranged to consider syphilis in five symposia.

Among the topics already selected to be presented are: *Ætiology and Bacteriology*, by Dr. Hans Zinsser; *General Pathology*, by Dr. John A. Fordyce; *Skin Manifestations*, by Dr. George H. Fox;

Diagnosis, by Dr. Abner Post; Serology, by Dr. M. A. Reasoner, Methods of Teaching, by Dr. William T. Corlett; and the Public Health Aspect, by Dr. Archibald McNeil. Under Medical syphilis, Dr. Harlow Brooks will consider Cardiac Manifestations; Dr. Alexander McPhedran, Arterial and Venous Phases; Dr. Henry C. Buswell, Gastro-intestinal Manifestations; and Dr. Henry L. Elsner, Prognosis in Cardio-vascular Syphilis. Dr. Wisner R. Townsend will consider Bone Manifestations in Hereditary and Acquired Syphilis. In the symposium on nervous and mental syphilis, Dr. B. Sachs will present Cerebral Manifestations; Dr. M. Allen Starr, Spinal Manifestations; Dr. August Hoch, Mental Phases, and Dr. Sidney R. Miller, the Spinal Fluid in Syphilis; while the special senses are to be considered by Drs. Wendell C. Phillips, Emil Mayer and John E. Weeks.

On Treatment, Dr. Edward L. Keyes, Jr., will consider the Primary, Dr. S. Pollitzer the Secondary, and Dr. James MacFarlane Winfield the Tertiary Stage; Dr. Homer F. Swift will report on the Intraspinal Method in the Treatment of Syphilis of the Nervous System, as originated and practiced by himself and Dr. Ellis. Under the general topic of hereditary syphilis, there will be papers by Dr. LeGrand Kerr, on Intra-uterine Manifestations in the First Year, and by Dr. L. E. LaFetra, on Syphilis Hereditaria Tarda. Discussions are to be made so important a feature that they will amplify the original presentations.

In answer to adverse criticism of the establishment of a section in a large medical society exclusively devoted to the consideration of an individual disease two answers are possible—precedent and sociologic importance. A careful comparative analysis of tuberculosis and syphilis as sociologico-medical problems compels the assertion that syphilis has as wide a world distribution, has as great a morbidity, has if untreated nearly as great a mortality, has a greater destructive effect upon posterity, has produced as great an economic loss to the individual, the family and the State, and has an incomparably better prognosis as to morbidity, mortality, heredity and economic productiveness. Yet no question has been raised concerning the unprecedented individualization of tuberculosis. If one-half the endeavor made to prevent and to lessen the morbidity of tuberculosis, if one-half the struggle made to cure the “white plague,” and if one-half the treasure spent for the segregation and improved environment of the tuberculous, were spent in an effort to stamp out the scourge of syphilis, the result would almost equal the influence of vaccination upon the occurrence of smallpox.

As private individuals and as wards of the government, the incurables from tuberculosis call for relatively little expenditure of public funds, for the fatal outcome is seldom long delayed; but, on the other hand, the incurables from syphilis occupy our public institutions for many long, expensive years of life. Thus, the economic argument for a broader and better consideration of syphilis is unanswerable.

For several years the foremost men of the country have constantly and emphatically preached that the teaching of syphilis was receiving too little time and attention; that the physician was too little familiar with methods of diagnosis and of treatment. Before the demonstration of the specific organism in syphilis, by Schaudin and Hoffmann in 1905, before the announcement of the specific serum reaction, by Wassermann in 1906, and before the publication of the specific influence of salvarsan in its treatment, by Ehrlich in 1909, there might have been some excuse for the inefficient and random methods pursued by the medical schools in teaching this disease, but to-day the necessity for more thorough teaching of the medical student and for better skill and knowledge on the part of the practitioner is evident. To this end the radical departure of the Medical Society of the State of New York in presenting an extensive program for the consideration of syphilis is timely and deserves commendation. Undoubtedly, this comprehensive treatment will have to be frequently repeated before its mission is accomplished. It is to be hoped that in the near future special departments including laboratory training will be established in all medical schools, so that the many forms and phases of syphilis may be properly correlated and so presented to the student that its importance will become apparent and be appreciated. Also, that the interest of the profession will be so aroused that not only more correct, but earlier diagnosis will be made, and that curative treatment will be promptly administered, while the obscure forms of visceral, nerve and brain syphilis will be promptly recognized and correct treatment instituted. Further, that the attitude of health departments and hospitals toward those afflicted with this disease will be so altered that better provision for their treatment and segregation will be cheerfully made.

The effort which the Society is making to win the profession to a broader and proper consideration of this disease is truly altruistic, economic and humanitarian.

GROVER W. WENDE.

XERODERMA PIGMENTOSUM FOLLOWING SEVERE
SUN EXPOSURE, WITH REPORT OF TWO CASES.*

By WILLIAM THOMAS CORLETT, M.D., L.R.C.P. Lond., Cleveland.

Professor of Dermatology and Syphilology, Western Reserve University.

FROM Wilson's description of xeroderma, or "parchment skin," under the heading of atrophica cutis,¹ it seems probable that he was familiar with the condition subsequently observed by Kaposi in 1865,² and five years later accurately described (by him) under the term it now bears.³ The disease is so striking that it is not strange, once attention was called to it, that other cases were soon reported in various countries and that each observer, not content with the caption under which it was described, sought to improve it by substituting a name of his own. Aside from Piffard's *lentigo maligna*,⁴ none accurately describe the condition nor possess the qualities of popular acceptance. More than 110 cases have been reported. My first opportunity of seeing the disease was through the courtesy of Dr. W. A. Brayton, of Indianapolis, who reported three cases.⁵ Since then others have been seen in my own and other clinics, but of these, two, which occurred in my service, stand out conspicuously, because in each the ætiological factor of the sun's rays seems to call for special attention.

CASE REPORTS.

CASE 1. B. C., male, æt. 3 years, of Jewish parentage, was brought by his mother for small tumors on the face, together with a rough, pigmented eruption on the exposed parts, which was readily recognized as a typical example of xeroderma pigmentosum. The mother gave the following history of the case: The child was apparently well formed but "doubled up" at birth and developed satisfactorily during the first few months, excepting that the joints did not seem to be normal and their free movement seemed to be impeded. This was called multiple contractures of the joints by her physician and attributed to intra-uterine pressure. When five months old, the child had whooping-cough, and the nurse was instructed to keep him out of doors. Accordingly, the baby became thoroughly tanned, but before this occurred, on a sunshiny day, the nurse allowed the strong sunshine to strike the left side of the face while the child was asleep, resulting in a severe sun-burn. About three months later, freckles appeared on this sun-burned area and gradually extended over the entire face and, to a less extent, on the neck, forearms, and back of the hands. Following this, the skin became rough and slightly scaly and three or four excrescences appeared; one on the left eyelid, which prevented opening the eye, as shown in the accompanying photograph, and two others, one on the left temple, which attained the size of a small

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

pigeon's egg, and the other on the forehead to the left of the median line, of about the same size. On the lid, the tumor degenerated, in the course of about a year, into a well-defined, malignant epithelial growth. This was confirmed by histological findings. The family history revealed that the father and mother were first cousins and that the first pregnancy miscarried about the third month of gestation. No history of syphilis was obtained nor were other members ever affected with any similar disease. The father and mother are of dark complexion and the grandparents are natives of Russia.

Little encouragement as to cure could be given and the patient has not been seen for about a year. The family attendant informs me that the disease has gradually progressed and that he does not expect the child to survive many months.*

CASE 2. V. K., æt. 70, born in Germany, lived in Cleveland during his youth and afterward moved to the City of Mexico, where he has since lived.

Family history." Father had what the patient described as "the same disease," and is said to have had a tumor on the breast; he lived to old age and died suddenly. The patient is the only other member of the family affected. He has had a rough skin, which easily inflamed on exposure to the sun, and since living in Mexico has been troubled with freckles. Otherwise he has enjoyed good health.

At the present time, June, 1907, the disease consists of scaly patches on tips of elbows and knees, which look like those of a mild form of psoriasis. Pea to dime sized scaly patches are also present on various parts of the extremities and trunk as well as on the face, having a tendency to become horny, the general appearance suggesting parapsoriasis. On the exposed parts, viz., the face, neck and the back of hands, the eruption is most clearly marked and in addition to the foregoing, there are elevated, dark keratotic patches, three of which have begun to break down. He has undergone treatment from time to time, has taken arsenic, but has obtained the best results from some hot sulphur springs near the City of Mexico. There is now on the index finger of the left hand an ulcerating lesion, which I take to be an epithelioma. On the opposite hand there is a less advanced disturbance, which looks more like an eczema, but which is probably of the same nature. The only lesion on the face is near the base of the nose. No histological examinations were made. Under treatment by the Roentgen rays, the lesions healed and he returned to Mexico without any especially threatening conditions present. Six years later the patient was still living.

The patient had a light skin, which did not tan, but readily freckled when exposed to the sun. He had blue eyes and reddish hair. He was an intelligent man, and said that a few years after going to Mexico his skin became rough and the exposed parts covered with mottled, dark-colored freckles; later scaly and finally horny patches developed. The mucous membranes were normal. He had been much in the sun and volunteered the information that strong sunshine never agreed with his skin.

How much the arsenic, which he claims to have taken, contributed to the condition I am unable to say. It did not resemble other cases of pigmentation and keratosis from this drug I have seen, and further, the parts protected from direct light rays, as in the palms of the hands, were not affected.

In these two examples, one is a classic type of xeroderma pigmentosum in the delicate skin of a child, followed by fungoid tumors, which developed into clearly defined epitheliomata of the superficial or prickle-celled type, which was attributed to and followed by severe sun exposure, leading to marasmus and imminent death. The

* The patient died at the City Hospital, August, 1914.

disease first appeared on and was limited to the sun-exposed areas. In the second case, a skin which did not readily tan, but under the strong, tropical sunshine of Mexico showed nutritive disturbances resulting in a condition which seems closely allied to, if not identical with, that of the first case, and, like it, followed by epithelioma-like lesions refractory to treatment and progressive in nature.

In my limited experience in the tropics, it has been noted that individual Caucasian skins react differently to the sun's rays. The first subjective effect in many instances is a marked general stimulation, which is followed by a reaction of a depressing, languid nature. Then comes one of two contingencies—either the individual takes on a deep tan, which in succeeding generations develops into a deep mahogany or coffee-colored skin, as seen in the inhabitants of Abaco, one of the Bahama Islands,⁶ or the skin, as in Case 2, above cited, suffers nutritive changes—such persons do not tan, and thus what seems to be nature's "screen" to injurious rays is denied them. Why the dark skin, which, according to the prevailing theory of refraction, absorbs all the solar rays, is more conducive to health in the tropics than the pale face, which reflects most of the rays of the spectrum, has not been clearly made out. It is more probable that in the former there is a local stimulation leading to regular or normal physiological activity, while in the last-named, through some individual or structural peculiarity, this stimulation leads to pathological results. Harding has shown that the direct exposure of the scalp to the sun's rays is followed by nutritive changes inimical to the growth of hair.⁷ Again, in the negro, centuries of tropical environment have acclimated him to the sun's rays, while in the Caucasian the sudden change to this environment often results diasastrously, for not infrequently many succumb before becoming acclimated and others leave no succeeding generation. Those who thrive best in the torrid zone have the property of assuming the negro tint to a greater or less degree, for in the dark-skin races the degenerative changes herein described are almost wholly unknown.*

Finsen's short life was devoted to the study of light in the treatment of diseases of the skin. He demonstrated that different rays of the solar spectrum produce different effects on the skin, both in health and disease. The field is not a new one, but it has not been sufficiently worked. One may smile at the credulity of Rhazes, the

* Since writing the above, an abstract of Sir Havelock Charles' contribution to the Society of Tropical Medicine and Hygiene, held in London, October, 1913, has appeared in the *Journal of the American Medical Association*, May 9, 1914, which indicates that similar views are entertained by others.

Arabian, in attributing therapeutic properties to color, yet modern photography demonstrates that red light excludes the actinic or chemical rays and the sensitive plate, when thus exposed, remains unchanged. Furthermore, in the great epidemic of small-pox in 1901, both at Lakeside Hospital and the Cleveland State Hospital for the Insane, its influence on the cutaneous manifestations was demonstrated,⁸ and Herbert Peck, of England, in 244 cases treated with red light, in which the actinic rays were excluded, had a mortality of only 2.4%, while the mortality in the same epidemic, 1902-5, in cases not so treated, was 5.8%.⁹

For a further discussion of the subject the reader is referred to Unna, "Pathologische Anatomie," p. 725, and to Hahn and Weik, *Arch. für Derm. u. Syph.*, lxxxvii, Nos. 2 and 3, who have studied the effect of different kinds of light, and to Elsenberg, *Arch. für Dermat. u. Syph.*, 1890, xxii, p. 49.

Allied to xeroderma pigmentosum, although the light idiosyncrasy is less active, is the *lentigo malin de vieillards* of Dubreuilh,¹⁰ or keratosis senilis with degenerating plaques, met with on the face and hands of elderly people who have been much exposed to, or whose skins do not well tolerate, the sun. In both, epithelioma is a common sequence.

Nor is the ætiological effect of light in xeroderma pigmentosum observed for the first time. Taylor's first case came from what was thought to be the carelessness of the nurse in allowing a child, when seven months old, to become sun-burned. The child was a brunette of Jewish parentage.¹¹ Adams of Beirut¹² reported the case of a child, aged seven years, in whom exposure to the strong Syrian sun was thought to have been the cause of the disease. Falcão¹³ of Lisbon reported a child, aged five months, who had been accustomed to remain a long time each day in the sun. The disease first appeared on the face in the form of dark freckles, and was attributed to sun exposure. Nicolas and Favre¹⁴ reported the case of a woman, aged seventy-one, in whom the disease had commenced quite late in life. She had been much exposed to direct sunshine, and the parts thus exposed being those affected with the disease. Fox¹⁵ reported a case of xeroderma pigmentosum in a sailor, aged twenty-three. Only the parts exposed to the weather were affected.

The most important contribution to this subject, however, is that of our late colleague, Dr. Hyde, who, in an exhaustive article, treats of the influence of light in producing cancer and other changes in the skin.¹⁶ My own limited observations tend to confirm the conclusions here so forcibly expressed.

While the disease under consideration is at the outset usually limited to the parts directly exposed to the sun's rays, other parts of the body not infrequently show, at a later period, more or less involvement. This would naturally follow, if light be accepted as an ætiological factor, because thin clothing, especially unless properly selected, would offer an imperfect barrier to the actinic rays. This is demonstrated in the second case of this report.

Heat seems not to contribute to the changes herein observed, while many "parched fronts" and cases of dermatitis in men exposed to intense furnace heat in the iron mills of Cleveland have been seen, in no instance have changes allied to those observed in xeroderma pigmentosum been encountered.

Again, while xeroderma pigmentosum in its most typical form is most frequently met with in childhood, yet many cases are on record in which the disease first appeared late in life. Falcão (loc. cit.) reported cases of 86, 88 and 89 years of age, and in Case 2, herein reported, the condition did not become active until past middle life.

That the disease is congenital seems from the case histories to be highly probable, or, more clearly stated, the peculiarity which makes one susceptible is inherited. This is further strengthened by the fact that not infrequently several members of a family are affected. Brayton observed three cases in a family of eight children; Taylor (loc. cit.) reported seven cases in related Semitic families; Hyde, three in the same family; Fox, two brothers (loc. cit.); E. Von Düring observed the disease in several boys of a family in which all the girls escaped,¹⁷ and Stelwagon cites Brüder as having seen seven cases in the same family. Instances of family predisposition might be greatly extended.

In conclusion, my object in reporting these cases is to record a matter of fact, and while no new theory is claimed, the deductions are drawn largely from personal observations, and such corroborative testimony as came readily to hand. Further observation and more exact research may be required before the exact status of what seem to be allied conditions, known under different names, will be generally accepted. That the condition herein reported is dependent primarily and essentially on an inherited susceptibility or predisposition, which is called into action by certain rays of the solar spectrum, seems highly probable.

With this in view, admitting that much remains to be known, I believe it would be well to advise against the indiscriminate sun exposure now so prevalent, and particularly against sudden or too protracted exposure in a class of people unprotected by an im-

PLATE X.—To Illustrate Article on Xeroderma Pigmentosum Following Severe Sun Exposure, with Report of Two Cases, by WILLIAM T. CORLETT, M.D.



Fig. 1.

Showing lesions on the face.



Fig. 2.

Showing lesions on the hands in a case of keratosis senilis universalis.



PLATE XI.—To Illustrate Article on Xeroderma Pigmentosum Following Severe
Sun Exposure, with Report of Two Cases, by WILLIAM T. CORLETT, M.D.

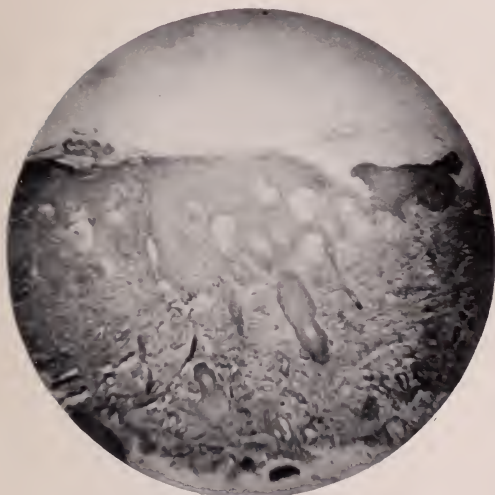


Fig. 3.



Fig. 4.

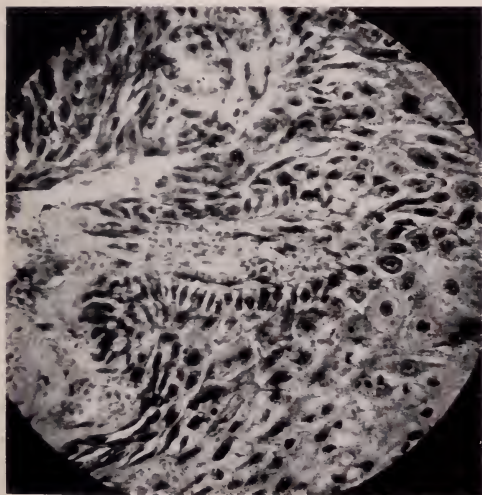


Fig. 5.

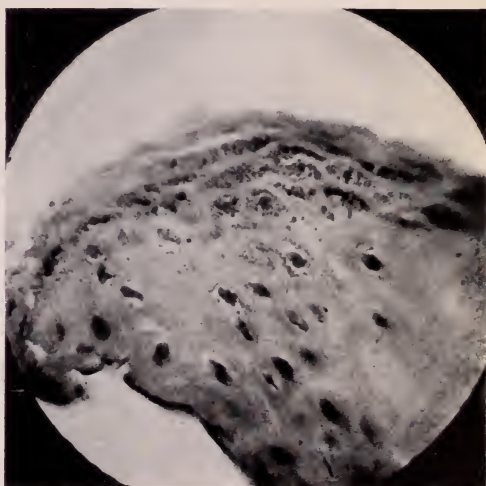


Fig. 6.



munizing coat of tan. This is especially important in infants in whom the overzealous back-to-nature principles of the nurse may in certain instances lead to irreparable harm.

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EXPLANATION OF FIGURES.

Fig. 3. Section through one of the lesions. Iron hæmatoxylin preparation. Shows entire skin in a lesion with irregular growth and atrophy of the rete mucosum. Note the warty excrescence on the right, the numerous dilated vessels embedded in the hypertrophied epidermis and the variable appearance of the epidermal cells with their invasion into the underlying dermis. Magn. 22.

Fig. 4. Section through one of the lesions. From an iron hæmatoxylin preparation. Shows the proliferation of the cells of the rete mucosum enclosing several dilated vessels and the transition of the squamous cells into atypical cells that are actively growing into the stroma. Note that some of these cells appear much like spindle-shaped sarcoma cells, others like basal-cell epithelioma cells and others like atypical prickle cells. Note the absence of a basement membrane, the irregular architecture of the epidermis and the granulomatous appearance of the stroma. Magn. 60.

Fig. 5. Section through one of the skin lesions. From an iron hæmatoxylin preparation. Note the dilated capillaries embedded in the growing rete mucosum; also the vacuolar degeneration of some of the squamous cells, the presence of prickle cells and their transition into atypical basal cells and to spindle-shaped cells lying directly on the vessels of the derma without an intervening basement membrane; showing also the invasion of the stroma by these atypical epidermal cells and the vascularity of the stroma. Magn. 311.

Fig. 6. A section through one of the lesions. From an iron hæmatoxylin preparation. Magn. 560. Shows many pigment granules in the cells of the rete mucosum. The cells have obscure outlines and shrunken nuclei.

DISCUSSION.

DR. GRINDON said that at the afternoon clinical session he expected to show a family group of xeroderma pigmentosum patients from southeastern Missouri. In one of the cases, the mother attributed the appearance of the disease to the fact that the child, when about a year old, was taken out for a long ride, on a sunny day, in an open wagon, without protection. This boy was nine years old, and his sister, three years old, was similarly affected. There was another boy who had remained free from the disease, and a baby, five months old, who was thus far too young to be classified either as affected or as free.

This family group, Dr. Grindon said, presented certain points which seemed to him to perhaps throw some light on the ætiology of this rare condition. So far as he had been able to learn, there were no cases among the ascendants or in the collateral branches of the family. On the father's side, the people were dark-skinned and tanned on exposure, while on the mother's side, they were light people and freckled. The mother was a particularly strong, healthy, well developed woman, but markedly freckled. She had a sister, who had at one time been much freckled, some of these freckles having been almost black in color. Might one suppose that there was in this family an increasing tendency to freckling, culminating in the children in true xeroderma pigmentosum? We knew that pigment, especially deep-seated, black pigment, acted as an irritant.

DR. PARDEE said the effect of light upon the skin as a possible factor in the ætiology and localization of certain cutaneous affections other than xeroderma had not received sufficient attention. The X-ray had been shown to be an actual light wave, and the experiments of Behring had proven that the light rays were capable of forming protein-splitting enzymes in the skin.

DR. BRAYTON said he only thought of xeroderma pigmentosum as a familial disease of early childhood, and almost invariably followed by death before the thirtieth year. Such, at least, had been the history of most of the American cases. In the family series which he had reported some years ago, near Indianapolis, one of the children had died at the age of nine, with his face largely eaten away by cancerous growths. Another member of the family, a young woman, died at the age of 26, after considerable destruction of the face and with a massive sarcoma on the hand. A third member had been under his observation from birth and for the past seventeen years, and was similarly affected as was her sister at the same age. None of these patients had been unusually exposed to the sun's rays. In all of them the disease became manifest in early infancy and was fully developed at about the age of six years, and progressed irrespective of any unusual exposure to sunlight. In the remaining living patient an early fatal outcome was to be expected. She had developed many small growths on her face and hands, which her father had treated successfully by scratching them out with his finger-nail and then touching the base with a strong solution of arsenic, which acted favorably. Five of the eight children had grown to manhood entirely free of the disease. None of the ancestors or relatives were affected. This, Dr. Brayton said, was perhaps one of the most distinctive family groups of the disease described in the literature.

Over one hundred well-defined cases had been reported, including the case of Dr. Wm. H. Davis, of Denver, and those of Dr. James C. White, of Boston, one of whom was still living. Perhaps the secretary will be able to state the outcome of the three Iowa cases first diagnosed and described by the late Dr. Hyde of Chicago.

DR. WHITE said the two cases reported by his father, Dr. James C. White, were still living, both over 50 years of age. In these two cases the skin seemed to be particularly resistant to cancerous degeneration, for up to five years ago, only one superficial epithelioma had appeared on either of the patients.

In connection with this subject, Dr. White said, he wished to place on record

another case, an Irish child, five months of age, in whom, after a single exposure to a February sun, there was an immediate development of freckles, followed rapidly by xeroderma pigmentosum.

DR. ORMSBY said the cases reported by the late Dr. Hyde came from Missouri, and that after a moderate amount of treatment in Chicago they returned home and had since been lost sight of. Since that time, the speaker said, he had seen two additional cases, which occurred in the same family, which, however, were imported. On their way from Europe, they stopped over in Philadelphia and were exhibited before the Society in that city. While here, one of the patients developed a malignant growth of the orbit, which soon became very large and caused the child's death. The present whereabouts of the other patient was not known.

The President, DR. WINFIELD, said that at the meeting of the Association, in Washington, four years ago, Dr. Carmichael had shown a family group of these cases.

DR. RAVOGLI said he saw two cases of xeroderma pigmentosum in a family coming from Kentucky. They were both children. One died; the other was lost sight of. For a time, these were regarded as cases of lupus.

URTICARIA PIGMENTOSA, PARTICULARLY IN REGARD TO ITS HISTOLOGY.*

By FRANK CROZER KNOWLES, M.D., Philadelphia.

Clinical Professor of Dermatology, Woman's Medical College; Instructor in Dermatology, University of Pennsylvania; Dermatologist to the Presbyterian, the Children's and the Howard Hospitals; Assistant Dermatologist to the Philadelphia General Hospital and to the Dispensary of the Pennsylvania Hospital.

SOME years ago the writer, with the intention of compiling a collected all of the papers published, including the case reports. complete article on the subject of urticaria pigmentosa, collected. In reviewing the subject carefully, several papers have been found which covered the bibliography of this condition so thoroughly that it has been thought best to give a general synopsis of the findings of these authors and to confine this paper, chiefly, to the pathological side of the affection.

The published cases of this affection have grown rapidly in number since the original observation of Nettleship in 1869 and the naming of the disease by Sangster in 1878. In 1883, T. Colcott Fox found but 19 cases of urticaria pigmentosa extant; in 1888, Paul Raymond, in his excellent monograph, recorded 29; in 1902, Blumer gave a résumé of 82; and Graham Little has recorded 71 instances

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

of this affection from 1902 to 1906. During the last eight years there have been numerous case reports and a few papers written upon the histological findings of this affection.

Urticaria pigmentosa is very rarely congenital, but usually starts at an early age. The 5 cases of the writer developed within a few months after birth in one instance, at 3 months of age in another, and at 4, 6 and 10 years respectively. Of the 83 cases tabulated by Blumer, 59 (71.1%) appeared before the first year after birth; more than one-half of the instances were observed before the age of 6 months. In Little's table of 142 cases, 79 were recorded as occurring at or before 6 months of age (55%). The disease developed after puberty, from 13 to 20 years, in 10 instances; between 20 and 30 years, in 5; between 30 and 40 years, in 3; between 40 and 50, in 2; and the oldest case was reported by Darier in a patient of 55 years.

Of the 138 cases recorded by Little, 86 were males and 52 were females; 61.7 per cent. of the male sex. Four of the writer's cases developed in the female sex, and but one was a male.

The eruption usually develops acutely, but in a case recorded by Darier, in a girl of 16 years, the lesions first appeared in very small numbers, five or six on the abdomen, and new lesions slowly appeared until at the end of two years she had about 150 spots. In one of Little's cases, one lesion developed on a girl, at the age of 3 months, and remained solitary for 5 years, when another patch appeared. She has never had any others, although 4 years have elapsed.

Three types of the disease are usually described; the macular, as well exemplified in the case of Cavafy's; the nodular, closely following the case described by Tilbury Fox as xanthelasmaidea, and the mixed type, having the characteristics of both varieties. According to Little's synopsis of 121 collated cases, 38 were macular, 10 nodular and 28 mixed. The writer's 5 cases were all of the macular type, although there was a slight tendency in one to border on the mixed variety.

The lesions are from a brownish-yellow to a deep-brown red, and when irritated become red. The nodules are deeper in color than the macules. Some of the lesions have a distinctly roughened appearance, "chagrinated," as called by Raymond. Some of the spots, in two of the writer's cases, showed this tendency. Although wheal formation may subside, the pigmentation apparently tends to remain, notwithstanding that it may grow fainter in color, as in the case that was observed by Morrow for 20 years, and in 3 of the writer's cases that have been followed for some years. In one of Darier's cases,

the disease had persisted for 50 years. Although there is no ulceration in this disease, several observers have reported scars which were apparently left by the outbreak; Hallopeau has recorded 3 such instances, and Wallace-Beatty, Crocker, Galloway-Brongersma, each one. The itching may or may not be severe, but not comparable to that of urticaria. The disease usually appears in singularly healthy individuals; two of the writer's cases being markedly well nourished. Artificial wheals can usually be produced on the sound skin by scratching or rubbing the surface: autographism. Hutchinson states that the face is rarely attacked, and such has been the experience of most observers, including the writer. It has been noted that the palms and the soles are very rarely the site of an outbreak. The buccal mucous membrane has been attacked in a few instances; Little has observed this phenomenon in two of his cases, small, brownish-yellow, slightly raised patches being present. Pick noticed general glandular enlargement in one of his earliest cases. Little observed this glandular enlargement almost always in his patients, sometimes to a degree comparable with the polyadenitis of syphilis. The glands are hard and shot-like, and do not suppurate; this tendency was most marked in the posterior cervical glands. This phenomenon was not present in any of the writer's cases.

Five cases of urticaria pigmentosa are recorded in this paper; two were observed in the skin dispensary of the Pennsylvania Hospital, two in the skin dispensary of the Hospital of the University of Pennsylvania, and one in the skin dispensary of the Children's Hospital.

CASE REPORTS.

CASE 1. A little girl, poorly nourished in appearance, aged 8 years, was brought to the skin dispensary of the Pennsylvania Hospital on June 8, 1908, with an eruption of yellowish-brown macules on the shoulders, the upper arms, the chest, the abdomen, the back, the lumbar region, the buttocks and the upper legs. Some of the pigmented areas are slightly raised, somewhat infiltrated and turn red on irritation. There is a decided roughened tendency "chagrinated," in some of the lesions. Some of the lesions are of a linear distribution, following the lines of cleavage of the skin. Fresh wheals were observed on each successive visit to the dispensary. The tendency to wheal formation continued for 4 months, lessening on each visit. The pigmented areas varied from a split-pea to a dime in size. The disease appeared 2 years before she first came under observation. Although the itching was quite severe, sleep was not interfered with. The patient has recently been seen and the wheal formation has entirely ceased. The pigmented areas are still, however, of a yellowish-brown color. The pruritus has entirely stopped. Artificial wheals can still be produced upon excitation of the skin. There are fully 100 pigmented areas present.

CASE 2. A little girl, the picture of health, quite plump, 2 years of age, was brought to the skin dispensary of the Hospital of the University of Pennsylvania. At the age of 3 months an outbreak of brownish-yellow, fawn-colored spots

started to appear on the trunk, the neck, the upper legs, the thighs and the shoulders. The face, the lower legs, and the forearms practically showed no lesions. The spots are almost all slightly raised and a few are somewhat infiltrated. They vary from split-pea to dime in size. There are a few urticarial lesions of the usual type on the legs. The baby is in good health, although the bowels have always been irregular in action. The mother stated that "mosquito-bite-like" lesions first appeared, some disappearing while others remained as red wheal-like elevations, becoming of a reddish-brown and then the present color. The scalp also shows involvement. Itching is marked, the baby rubbing even on her short visits to the dispensary. During the 2 months that the baby was under observation, the wheals continued to appear in large numbers.

CASE 3. An unusually well-developed girl of 12½ years was brought to the skin dispensary of the Children's Hospital on September 21, 1908, with an outbreak of about 50 plaques, reddish to brown in color, on the upper arms, the shoulders, the back, the upper portion of the buttocks and lumbar region, the chest and the abdomen. The lesions are slightly raised and have a slight papillary tendency. There were no wheals present and there was also an absence of pruritus. Wheals could be artificially excited. The mother gave the history that the patient had suffered from frequent and more or less continuous attacks of "hives" in her younger days, infancy and early childhood, and the brown marks subsequently developed. The condition apparently first appeared a few months after birth. The child is in the best of health.

CASE 4. A poorly nourished child of 11 years was brought to the skin dispensary of the Pennsylvania Hospital on April 7, 1911, with numerous brownish-yellow pigmentations on the chest and the back, and a few on the upper portion of the extremities. The condition first appeared 8 months previous to her first visit to the dispensary. Itching was intense and wheal formation a marked feature. Dermographism was very evident, wheals could be readily excited. The "chagrinated" appearance, as described by Raymond, was noticeably present. The seven other children in the family were absolutely healthy. The little patient has been closely observed during the last 2 years and there has been a marked improvement, the wheal formation and the pruritus having practically stopped. The pigmented areas, however, still remain.

CASE 5. A boy, quite slender, of a noticeably blond type, 14 years of age, came to the skin dispensary of the Hospital of the University of Pennsylvania on August 26, 1912, with a very profuse eruption of yellowish-brown to dark-brown macules and slightly raised plaques, of an almost generalized distribution, with the exception of the face, the palms and the soles. The outbreak started at the age of 4 years and the tendency to wheal formation has been present ever since the original onset. During the short period that the case was under observation, the wheal formation almost entirely stopped. The pruritus was very slight. Nine other children in the family were absolutely normal. The mother was 45 years old at the time of the boy's birth.

Four of these cases were presented before the Philadelphia Dermatological Society, and two of this number before the American Dermatological Association, the members of each body concurring in the diagnosis.

The writer endeavored to obtain permission for a biopsy in each of these five cases, but was unsuccessful excepting in the last.

The lesion excised was of the macular type, and reddish-brown in color.

The epidermis was normal in thickness, although somewhat rugose

in places. There was slight vacuolization of a few of the epidermic cells of the rete. The entire basal cell layer was filled with pigment granules. The pigment formation was also observed in the upper portion of the rete. There was a small quantity of free pigment in the upper portion of the corium. The blood vessels were apparently normal in size, but an unusual number were seen in each field.

Numerous mast-cells were found arranged in columns, massed and scattered. They were almost all of a fusiform shape, some with a central oval or elongated nucleus and others with a peripherally placed nucleus; the cells were filled with well-developed granules. Some of these cells, however, were of a very irregular shape, resembling a kite. Some of the mast-cells were broken and the granules were free in the corium. Masses of these cells were found just below the papillæ, but the great majority were arranged in columns, mostly parallel to the skin surface, but some transverse in their arrangement. The superficial blood vessels were more or less surrounded by these cells. Some of the mast-cells ran up into the papillæ almost to the epidermis. Although the great majority of these cells were found just beneath the epidermis, the sweat-glands, the sweat-ducts, the hair-shafts and the deeper blood vessels were partly surrounded. They were sparsely scattered throughout the deeper portions of the corium.

The sebaceous and sweat-glands were unaltered. The elastic and fibrous tissues were normal in quantity and distribution. The cells stained well with an eosin and hæmatoxylin stains, and the mast-cell granules were well brought out by means of a toluidin blue.

Although Thin found a sub-epithelial accumulation of cells which he regarded as lupoid and the Hoggans found an almost purely cellular accumulation, in a very fine, rarefied connective tissue framework, which they regarded as distinctive, it remained for Unna, in 1887, to discover that these cells were in reality very large, flattened mast-cells. Mast-cells, according to Ranvier, consist of two types, the fusiform, well-developed cell, with normal nucleus and a copious granular mantle around, and the cuboidal, from pressure in large infiltrations, the nucleus of which is surrounded by a thin outline of granules and the cell is distorted and compressed. The latter type was not found by the writer because there were no large masses of these cells present and therefore insufficient pressure to cause this deformity. According to Unna, these cells are found in large masses in the papillary body and cause flattening of the epidermis above; they are closely packed, mast-cell to mast-cell, and are arranged in columns by the persisting collagenous tissue, between which, when

spastic œdema is added, are wide, open lymph spaces. Along the blood vessels there is a regular coating of mast-cells, right down to the hypoderm, and there they show the regular spindle form. Unna also found that around the mast-cell areas in the cutis there is slight hypertrophy of the spindle cells, and here and there one may be found being transformed into a mast-cell. Brongersma found in his sections that the mast-cells in the centre of the lesions were of a spindle shape and in other situations of a polygonal form. Brongersma discovered fewer granules in the mast-cells of spindle shape than in the cuboidal or polygonal cells, and numerous granules were found lying in the spaces external to these cells. Many free-lying granules and granular cells were also observed in widened lymph spaces. Baumer also described fewer granules in the mast-cells of elongated spindle shape situated near the vessels, than in the cuboidal cells which were found a short distance away from these channels. Jadassohn has found mast-cells accompanying the tiny capillary twigs into the summit of the papilla, and they have even been found by him in the epidermis itself as an interepithelial infiltration. More often, however, according to Little, the bulk of infiltration of these cells is found around the larger subpapillary and deeper plexus. The hair-shafts, the sweat-glands and the sweat-ducts are usually more or less surrounded by mast-cells. The mast-cells are usually more numerous around the hair papilla than superficially along the hair.

Practically all authorities agree that the epidermis is normal in urticaria pigmentosa with the exception of more or less stretching and flattening, depending upon the size of the papule or wheal that may be present, and of the pigmentation. According to Unna, pigmentation is found only in the prickle cell layer of the skin, and there is absolutely none in the cutis.

The corium shows, according to Little, dilated blood vessels, and for this reason they appear unduly numerous, the smaller vessels showing in greater number than in normal skin. There may be extravasation of corpuscles into the skin, as was observed in one of Little's cases, but this is an exceptional observation. Unna reported in his original observation that the collagen appears separated and spaced out, especially in the superficial corium. The appearance of the collagen would point to an interstitial œdema, which the dilated blood vessels would also confirm. Little found no cavities in any of his sections. He, however, found the elastin dislocated and forced apart, apparently by interstitial tension. Little found an intracellular and occasionally an intercellular œdema of the epidermis. Keratohyaline has been deficient in the majority of his sections.

Unna believes that the hæmorrhagic areas found by Pick in the cutis were caused by injury to the skin at the time of biopsy. Brongersma did not find the hæmorrhagic areas recorded by Pick, neither did he observe the little collections of golden pigment such as had been recorded by Colcott Fox, nor the pigment cells in the infiltration, which had been reported by Raymond. Unna found the wheal formation to consist histologically of a dilatation of the blood vessels in the whole vascular cone of the skin, down to the papillary vessels, while the skin is made anæmic by a papillary œdema, limited to the mast-cell areas. Brongersma found œdema throughout the whole cutis, and the lymph spaces around the vessels, the hair follicles and the sweat glands were especially evident.

As the presence of mast-cells are diagnostic of urticaria pigmentosa, it would be well to give the different opinions in regard to the origin of these cells. Unna, since his first paper on this subject, has changed his opinion in regard to the fact that the mast-cells are emigrated wandering cells; he now considers that they develop locally from the connective tissue cells which take up mast-cell granules. According to Darier, it has been demonstrated by Ranvier that these cells are derived from the blood. Little believes that the view of Ranvier is correct, because these cells are found surrounding the blood vessels. Quinquad and Nicolle detected nuclear division in the mast-cells. Gilchrist was unable to find this nuclear division in any of his histological studies of this affection. As Gilchrist found numerous mast-cells present in a case of urticaria pigmentosa, four minutes after a wheal was formed, he hardly can conceive that such cells could come from the blood, or that they could proliferate in such a short space of time. Brongersma believes that in order to prove that the mast-cells were formed in the blood vessels and had passed through the walls, these cells should be found in the vessels, which observation has not been made by any investigator. Brongersma therefore believes that the mast-cells existed before the formation of a wheal, and as a result of the rapid œdema and other changes coincident with the formation of a wheal, have been swept together from tissues in the neighborhood. Unna believes that the mast-cells are formed by a peculiar change from ordinary connective tissue cells, and do not as a rule multiply by a process of cell division, and their appearance in masses, therefore, depends on constant additions to their number of transformed spindle cells.

The question of the location and character of the pigment is second only in importance, in this affection, to the mast-cells. Unna believes that the brown color of the spots is due to the ordinary epi-

dermic pigment which is found in such large amounts, in this disease, in the basal cell layer of the epidermis. Pick considers that the pigmentation is due to prolonged hyperæmia and the hæmorrhagic exudate. According to Little, the lesions which appear clinically the darkest may show microscopically the smallest amount of pigment, while patches almost too faintly colored to be easily differentiated from the healthy skin may be rich in pigment cells. There is usually, however, in the observation of this writer, a rough agreement between the amount of pigment and the number of mast-cells. The pigment is found in special cells consisting of a nucleus, surrounded by granules. Little has found these cells not only in the basal cell layer of the epidermis but also in several of the superposed layers of the rete and free in the corium, quite close to the basal layer, and in the neighborhood of mast-cell accumulations. The latter writer has repeatedly demonstrated the granules of pigment to be melanin. He has found that the shape of these pigment cells varies, columnar in the rete and with fusiform and stellate shapes in the corium; more granules were found in those in the latter area. Little is of the opinion that the color of the lesions is caused almost as much by the mast-cell accumulations as by the pigment cells themselves, and that mast-cell masses in the cutis cause the color of the clinically pigmented spots.

The knowledge of the ætiology of a disease is naturally essential in the cure of the condition, and unfortunately the cause of urticaria pigmentosa is shrouded in uncertainty. A family tendency has been absent in almost all of the reported cases; in one of Little's cases, the mother and a cousin had the disease; Darier observed the condition in three sisters, and Wallace Beatty reported the affection in two brothers. One of the cases of the writer was attributed by the mother to the fact that she gave birth to the child at the age of 45 years.

Both Raymond and Little made the observation that the disease is much more apt to attack those of a fair rather than a brunette type; such also has been the writer's experience. The male sex seems to be more predisposed to the condition, although the reverse has been the writer's observation.

In one of Little's cases the rash came out suddenly and acutely, after vaccination; both Pick and Lazansky have recorded similar instances. Woldert and Colcott Fox reported cases developing after varicella and Cutler after measles. Two cases seemed to have had their onset with a severe fright—Breda's and Little's. Hutchinson is of the opinion that insect bites are responsible for the ap-

pearance of the disease. In a case quoted by Raymond the rash came out after a sulphur bath. Jacquet believes that the administration of morphine injections to the mother during pregnancy was an exciting cause of the disease in her child. Perrin is also inclined to attribute to maternal shock during pregnancy, the development of the disease in her offspring.

Paramore has made careful studies of the blood in this affection and has found that there was a definite modification in the red blood cells, tending to increase their resistance to destructive agents; the salt content of the blood was also increased and the lime was at least not diminished. In view of the fact that all of the characteristics found in the blood in urticaria pigmentosa have also been found in cases of hæmophilia, purpura, etc., he considers it plausible to consider the disease as more akin to the so-called blood diseases, perhaps as occupying an intermediate position between the purpuric condition and the urticarias.

Neisser brings forward a view as to causation which would bring this disease in line with the nævi, suggesting the convenient name for this affection, of "Mastzellentumoren." He believes that the two conditions, urticaria and tumor-like formations, are two different things, each for itself, and the causal relation between them is not clearly established. The tumors are of an inherited form and disposition, like the embryo deposits in tumors. The urticaria is only the chance cause of these apparitions. Little has suggested that the frequent onset so early in life has naturally suggested that the causation is to be sought in congenital conditions, which, though commonly not noticeable at birth, become evident some time later. To support this theory, two of Little's cases showed infiltrations of mast-cells, although taken from skin that appeared absolutely normal, clinically. Gilchrist demonstrated a similar state of affairs. Welch suggested the hypothesis that there was in patients suffering from urticaria pigmentosa a toxæmic condition of the blood, and when the skin was stimulated, toxins were set free in the tissues. Brongersma believes that the mast-cells exist before the formation of the wheal, and as a result of the œdema and other changes coincident with the formation of the wheal, have been swept together from the tissues in the neighborhood. He further states that the tendency to this urticaria can be explained by a process of degeneration of the mast-cell granules that lie free in the lymph spaces and which gain access to the blood, thereby acting as a toxin which is capable of producing the changes in the superficial circulation, which gives rise to urticaria.

CONCLUSIONS.

This disease should be absolutely dissociated from urticaria, as the course, symptoms and the histological mast-cell picture absolutely distinguishes it. A congenital abnormality of the skin has apparently been proven in cases of urticaria pigmentosa, by the finding of mast-cells in the clinically normal skin of those with this affection. A congenitally abnormal skin is therefore much more easily acted upon than one that is normal. Some toxin, apparently, which possibly might not prove to be deleterious to a normal skin, is evidently causal in this affection. The nature of the toxin or the way in which it acts is as yet unknown.

The writer wishes to express his thanks to Dr. Paul A. Lewis for his assistance.

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PLATE XII.—To Illustrate Article on Urticaria Pigmentosa, Particularly in
Regard to Its Histology, by FRANK C. KNOWLES, M.D.



Fig. 1.

Showing lesions on back.
Girl, 2 years old. Duration, since the age of 3 months.



Fig. 2.

Showing lesions on chest and abdomen.
Girl, 2 years of age. Duration, since the age of 3 months.

PLATE XIII.—To Illustrate Article on Urticaria Pigmentosa, Particularly in
 Regard to Its Histology, by FRANK C. KNOWLES, M.D.

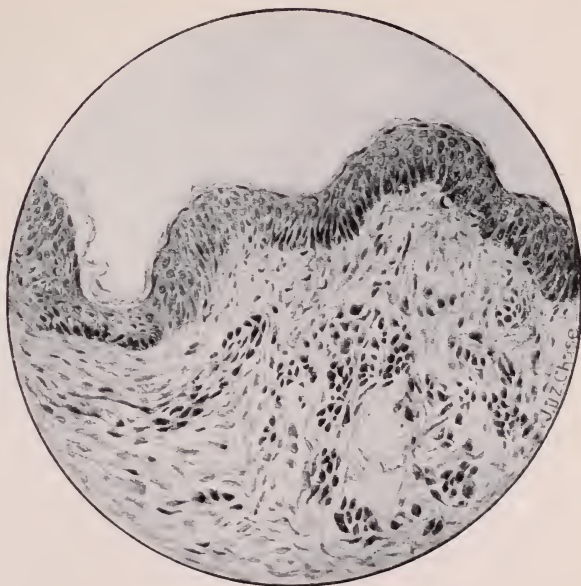


Fig. 3.

Shows increased amount of pigment and numerous
 mast cells. Eosin and hæmatopylin.



Fig. 4.

Shows the columnar arrangement of the mast cells.
 Toluidin blue.

THE VACCINE TREATMENT OF RINGWORM OF THE SCALP.*

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(From the Laboratories of the Philadelphia Polyclinic and College for Graduates in Medicine.)

RINGWORM of the scalp is an affection not only of constant interest to the dermatologist, but also to the educator of any community. In view of its contagiousness it becomes a menace to children who may come in contact with the afflicted one, and because of its marked resistance to ordinary methods of treatment it constitutes quite a problem both for the practitioner and the health authorities. Since the introduction of the present school medical code, most of the children affected with *tinea tonsurans* are excluded from our public schools, and thus many useful school days are lost to them, leading to considerable illiteracy.

According to Crocker,¹ *tinea tonsurans* constituted 10% of the patients who consulted him in his clinic. It is improbable that the percentage is quite so high in Philadelphia, but from a somewhat limited experience, it is evident that the number must be nevertheless formidable.

The therapeutic agents which have been proposed in the treatment of this disease are as numerous as Solomon's wives. Some of them have withstood the test of time, but most of them have been relegated to the vast and forgotten unknown. The medical treatment of ringworm may be best summarized in the words of Crocker who truly remarks, "The treatment of *tinea tonsurans* remains the opprobrium of the dermatologist's art, from the difficulty experienced in carrying the parasiticide deeply enough into the follicle. As in all obstinate diseases, a legion of remedies are put forth as certain and speedy cures. I know of only one remedy—namely, perseverance."²

It was Sabouraud and Noiré who introduced the X-ray treatment

* This paper was presented in abstract before the Pathological Society of Philadelphia, and the cases were presented before the Dermatological Society of Philadelphia.

¹ Diseases of the Skin, 1893.

² *Idem*.

of ringworm of the scalp, a method of treatment capable of inducing a cure in about three months. Their method consists in producing depilation of the affected area of the scalp by employing a measured quantity of X-ray energy. The depilation occurs about two to three weeks after the X-ray exposure. It does not directly affect the fungus. This mode of treatment should only be employed by radiologists of great experience, for there is danger of causing a permanent alopecia. The favorable reports of the above authors have since been confirmed by numbers of others.

It was in 1902 that Plato³ described his trichophytins. These consisted of a culture of deep nodular ringworm of the beard, grown in 3% maltose bouillon for 2 to 3 months, at room temperature. The growth was ground up as much as possible with a glass rod or strong platinum wire and filtered through sterilized filter paper and 0.25% phenol added. Von Truffi⁴ filtered his culture through Chamberland candles and boiled the filtrate.

The trichophytins were found to have practically no influence on the lesions of tinea tonsurans of the ordinary type. Their chief value have been as a method of diagnosis in some types of ringworm.

One might be inclined to attribute the therapeutic failure of vaccines in this disease to the fact that the ringworm fungus in tinea tonsurans is located in epithelial tissues which are not in intimate relation with blood vessels; that *a priori* there would be an unlikelihood that the toxins in the ringworm fungus would reach the blood stream and lead to the production of antibodies.

In an investigation undertaken by Dr. John A. Kolmer and the author, it was found that positive complement fixation tests can be obtained in a high percentage (78%) of cases of ringworm and of favus, employing the fungus as an antigen. Due care was taken to employ numerous controls, including not only numerous dermatologic affections, but also syphilis, and in none of the controls did we obtain a positive result. (For a more detailed report of this phase of the subject, the reader is referred to a paper, "Complement Fixation in Parasitic Skin Affections," by Dr. John A. Kolmer and Dr. Albert Strickler, soon to appear in print.) This finding is definite evidence of the fact that amboceptors are formed in the blood. This being the case, the possibility of elaborating an efficient vaccine against the disease seemed not too remote. Bruhns and Alexander have suggested that in deep ringworm more antibodies are thrown into the circulation than in superficial lesions; this may ex-

³ *Archiv. f. Dermat. u. Syph.*, 1902.

⁴ *Clinica medica*, 1904.

plain the observations of Sabouraud and Jadassohn that trichophytosis of an acute but more especially of a deep type may measurably influence the general organism sufficiently to confer a valuable immunity.

In the first effort to make a vaccine from *trichophyton tonsurans*, suspicious hairs were obtained from the scalp of three patients. These hairs were soaked in absolute alcohol for 15 minutes, then immersed in sterile salt solution and transplanted by a sterilized forceps to "French Proof Agar" in an Ehrlenmyer flask. All the steps in this procedure were carried out under the usual laboratory technique. The flasks were placed on the top of an incubator and allowed to grow for twenty-four days. At the end of this period, in our first efforts, the growth was removed by a sterilized platinum spade and placed in sterile mortar and rubbed up with a definite quantity of salt solution. The process of trituration was continued for about three quarters of an hour, but the growth at the end of this time was but slightly broken up. We then placed the solution in a sterile flask with sterilized glass beads and put it in a shaking machine for three hours, with but little impression on the growth. The solution of the growth was then filtered through sterilized filter paper in order to get rid of the large masses; when the filtrate was examined microscopically, only a few spores could be found in a field and in some nothing at all could be seen. It was therefore concluded that it would be useless to experiment with a vaccine of such a character.

It was suggested by Dr. Kolmer that crystals of sodium chloride, chemically pure, be used to rub up the growth of the cultures and much to our surprise the growth, after trituration it for some ten minutes, rubbed up so finely as to leave but a very few small particles, thus eliminating the necessity of filtration of the solution. To this, enough sterile distilled water was added to make a normal saline solution. It is felt that the success obtained by this method of treatment depended upon the incorporation of the entire fungus growth in the vaccine; the failure of the trichophytins of Plato was probably due to the fact that the culture suspension was subjected to filtration. Too much stress cannot be laid upon this point of difference, and too much emphasis cannot be placed upon the necessity of thoroughly rubbing up the ringworm growth.

From the growth on an ordinary Ehrlenmyer flask, about 500 cc. of vaccine was made up. To this 8 to 10 cc. of chloroform was added to kill the growth, and then the vaccine was heated to 60° C. for one hour. Controls for living fungi were made on French Proof Agar, and for pyogenic organisms, on agar. The vaccine was preserved by

the addition of sufficient phenol to bring it up to 0.25%. It was then tubed in sterile vials and was ready for use.

We had previously made up a sensitized ringworm vaccine, using the serum of a rabbit immunized against ringworm, but we concluded that it was inferior to the ordinary vaccine, its disadvantage probably being in the second boiling made necessary by this technique.

The vaccine may be employed in doses varying from 0.5 cc. up to 4 cc. It has been found of no value to employ so large a dosage as the latter; the usual dose varied between 1 cc. and 2 cc. The injections were given at intervals of three days. The region between the scapulæ, where there is considerable loose tissue, and the buttock, were the areas chosen for injection, preference being given to the former. About 36 hours after the injection, but only after the patient has had 6 or 7 injections, an infiltrated area develops at times, at the point of injection. This infiltration can be made to disappear by painting with tincture of iodine and applying a dressing of ichthyol ointment, once daily. In only one instance did abscesses occur and that was in a debilitated child with generalized ringworm. Treatment had to be discontinued in this case, although the patient distinctly improved from the vaccine he had received. In no instance was there any constitutional reaction following the injections.

The number of injections varied from seven in some instances up to seventeen in others. No case was considered cured until the hair from the area treated and the vicinity had been examined microscopically and found to be devoid of fungus. The hair was submitted to Dr. J. F. Schamberg and Dr. John Kolmer, who subsequently examined the same and confirmed the absence of the ringworm parasite.

The following are the histories of the patients treated with this vaccine.

CASE 1. Samuel Stokes, colored, 5 years of age, on admission to the Philadelphia Hospital, which was January 16th, 1914; received infection 4 months previous to admission. The condition was generalized over the entire scalp. Infection was due to the microsporon. Treatment began April 26th, 1914. No other treatment applied to the scalp. He received vaccine injections as follows: Apr. 26, 0.5 cc.; Apr. 30, 1 cc.; May 5, 1 cc.; May 8, 1 cc.; May 11, 1 cc.; May 14, 1 cc.; May 18, 1 cc.; at this time marked improvement was noticed. May 21, 1 cc.; May 24, 2/3 cc. Patient was kept under observation for 6 months and then discharged, cured.

CASE 2. Angelina Munzo, white, 9 years of age; one of three children. Received infection from brother. She had one patch about the size of a palm and one very small patch. The microsporon was found to be the infecting fungus. Dates and doses of vaccine administrations as follows: May 24, 1 cc.; May 27, 1 cc.; May 30, 1 cc.; June 2, 1 cc.; June 7, 1 cc.; marked improvement. June 10, 1 cc.; June 13, 1 cc.; June 17, 1 cc., cured. Remained in hospital about 2 weeks, and was then taken home by her parents, cured.

CASE 3. Jimmie Mitchell, white; admitted to the Philadelphia Hospital, Feb.

26, 1913, at which time he was 6 years of age. No history could be obtained as to duration of affection previous to admission. He had all sorts of local treatment without avail. On April 26th, vaccine treatment instituted and all local treatment discontinued. Examination of hair showed microsporon infection. Apr. 26, 0.5 cc.; Apr. 30, 1 cc.; May 5, 1.5 cc.; May 8, 1 cc. No improvement and hair was taken for making autogenous vaccine. May 11, 1 cc.; May 18, 1 cc.; May 21, 1 cc.; May 24, 1.5 cc. Some improvement noticed. May 27, 2.5 cc. On July 10th, new vaccine was given, each cc. of which contained $\frac{1}{3}$ cc. of autogenous vaccine, the remaining $\frac{2}{3}$ being stock. July 10, 1 cc.; July 14, 1.5 cc.; July 18, 1.5 cc.; July 22, 1.5 cc.; July 26, 1.5 cc.; July 30, 1.5 cc.; Aug. 4, 1.5 cc.; Aug. 8, 1.5 cc. Discharged cured. Patient received in all, 17 injections. The hair of this patient was examined on three different occasions and reported negative. At the last examination, Drs. Schamberg and Kolmer also examined the hair of this case and pronounced it free of fungus. This patient had an associated seborrhœa sicca, which yielded promptly to a weak sulphur ointment.

CASE 4. Bessie Lesser, 11 years of age, white. Duration of disease, $1\frac{1}{2}$ years. In the latter part of December, 1913, was given X-ray treatment by Dr. Phaffer; he failed to cure. On August 12th, 1914, admitted to Blockly. Examination of hair showed microsporon infection. Patch was limited to vertex of scalp. Aug. 19, 1 cc. sensitized vaccine. Aug. 23, 1 cc. sensitized vaccine. Sept. 8, 1 cc.; Sept. 21, 1 cc.; Sept. 27, 1 cc.; Oct. 3, 1 cc. Discharged cured after examination of hair proved absence of fungus.

CASE 5. Wilbur Hurricane, colored; 10 years of age. Admitted to Blockly, Sept. 10, 1914. Diagnosis, tinea kerion. Mother says that child caught the disease in school. Had it since Christmas, 1913. Child received 10 injections, commencing Sept. 13 and terminating Oct. 17, inclusive. Discharged in latter part of November, 1914.

CASE 6. Jacob Strauss, white, 7 years of age. Had infection 8 months previous to admission to Blockly, which was August 18th, 1914. Sister stated that the condition started on the scalp as a small scaly area and spread rapidly, involving other areas. Parents consulted the skin clinics in various hospitals without noticing any improvement in the boy's scalp. At the Pennsylvania Hospital the scalp was X-rayed, but no cure was obtained; in short, the infection resisted all treatment. The microsporon was found in the hair. This patient received two injections of sensitized vaccine and 11 injections of ordinary ringworm vaccine. The treatment terminated on November 23rd. Child was kept under observation for one month and was discharged cured. After an examination the hair failed to disclose the presence of the fungus.

CASE 7. Carl Strauss, white, aged 4, brother of Jacob. Admitted to the Philadelphia Hospital, August 18th, 1914. This patient received two injections of sensitized vaccine and 13 injections of ordinary vaccine, and was discharged cured at the same time as his brother.

CONCLUSIONS.

From an experience with this method of treatment extending over seven months, we may conclude that tinea tonsurans can be cured by vaccine. How great is the proportion of cures which can be obtained by this method of treatment alone, we are not prepared to say, because the cases are too few to permit of such conclusions. An extensive use of this method of treatment and a broader experience will ultimately accord to this remedy its proper value. Even if it should fail to come up to our expectations, it should prove valuable in con-

junction with local treatment. It should shorten the time of treatment and possibly place this therapeutic measure on a par, so far as time goes, with the X-ray method of treatment, without sharing in the dangers of the latter method.

In conclusion, I wish to express my thanks to my chief, Dr. J. F. Schamberg, for his advice and encouragement which have greatly facilitated the work. I must also express my gratitude to Dr. John Kolmer for many favors shown me; and also to Drs. H. W. Stelwagon and M. B. Hartzell, chiefs at the Philadelphia Hospital, who courteously allowed me the use of their wards during their term of service.

PURPURA ANNULARIS TELEANGIECTODES.*

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(Continued from page 141.)

PART TWO.

DISCUSSION OF THE CLINICAL FEATURES.

Majocchi's original description of the disease included the following general characteristics:

1. Small rose or reddish-blue spots, composed of capillary dilations and followed by small hæmorrhages, without preceding hyperæmia, without apparent infiltration of the skin and always in close connection with the hair follicles.

2. Slow and progressive development of the eruption.

3. Constant manner of development away from the centre of the macular spots, producing the well-marked annular configuration.

4. Symmetrical distribution of the eruption.

5. Limitation of the disease to the extremities, especially the lower ones.

* Read in abstract before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

- 6. Absence of itching or of any other sensory disturbance.
- 7. Ending in slight atrophy of the skin.

We will now undertake a critical analysis of these points in order, excepting that I prefer first to discuss the three well-marked stages described in Majocchi's first communication.

STAGES OF THE DISEASE. These consist, as has been mentioned, of (1) teleangiectatic, (2) hæmorrhagic-pigmentary, (3) atrophic. In my case the three periods of evolution were well marked, but they overlapped—that is to say, the three stages were present at one time on account of new lesions developing before the older ones had entirely disappeared, and this was noted in many of the recorded cases. In other words, while the single lesions are likely to pass through the three stages, the eruption as a whole is not necessarily clean-cut in this respect. On the other hand, in many instances there are no new lesions after the development of the first crop, so that the eruption in its entirety passes through the three separate stages. As a matter of fact, the first attack in my patient was of this type. The second attack occurred before the pigmentation and teleangiectasia of the first attack had entirely disappeared, and in this recurrence the appearance of many lesions was delayed until some of the older lesions had entered the second and third stages.

It has been shown that the three stages are not always in evidence. For instance, Balzer and Galup failed to detect visible teleangiectasia and other observers fail to mention this feature, Brandweiner, for example, noted its absence in one case, its presence in one case, and fails to mention it in another instance of the disease. On the other hand, the majority of the cases clearly depict this characteristic. However, after a careful perusal of the recorded instances of the dermatosis, one gains the impression that the teleangiectatic stage, or at least teleangiectasia, is always present, but that it may be more or less completely masked by the large number of hæmorrhagic puncta, the pigmentation and the atrophy, and in some cases it may be clearly observed only in the very early stages of evolution. On the other hand, teleangiectasia may persist throughout the three stages, as occurred in my case, where ectased capillaries were found both clinically and microscopically in the atrophic and pigmented lesions of the first attack.

There is no question regarding the hæmorrhagic stage—more or less hæmorrhage is always present and constitutes a marked clinical feature. It occurs as punctate or lentil-sized spots. Very often the paucity of hæmorrhage found in the histological sections is not in accord with the apparent amount of clinical hæmorrhage. This dis-

crepancy may be due to the fact that thrombosed or angiectatic superficial capillary loops will present a dark-red color, fail to pale on pressure, and may simulate hæmorrhagic puncta. This was clearly demonstrated in my case, where, in some instances, I was not certain whether I was dealing with a hæmorrhage or a thrombosed capillary. In this connection Brandweiner and Unna call attention to the fact that it is not always easy to differentiate clinically between hæmorrhage and angiectasia (see Unna's letter in review of the literature). In a few of the recorded cases there was no mention made of clinical hæmorrhage, but after reading the clinical and histological records of the cases in question, one is forced to think that there must have been visible evidence of hæmorrhage.

Pigmentation was definitely absent in only two instances (Vignolo-Lutati and Brandweiner), and three other authors fail to mention its presence or absence. When one considers that there are 38 recorded examples of the disease, in most all of which there was teleangiectasia, hæmorrhage and pigmentation, it seems but fair to assume that the first and second stages are practically always present.

The third or atrophic stage is frequently absent. Vignolo-Lutati noted it in one case while it was absent in another of his patients. Brandweiner failed to detect it in four cases and fails to mention the phenomenon in another example of the affection. Nobl and Ambrosoli also specifically note the absence of this feature, while several authors fail to signify whether or not the terminal stage was present. Many of these negative findings are due, undoubtedly, to a failure to keep the patient under observation for a sufficiently long time. On the other hand, Brandweiner, Vignolo-Lutati, and especially Ambrosoli, were able to follow their cases to complete recovery, and there was at no time the slightest evidence of atrophy. Atrophy was definitely present in only 15 cases. I think, however, after careful study of the negative or doubtful cases, that 9 of them can be added to the positive cases, making a total of 24 cases showing atrophy out of the total of 38. It will be seen, therefore, that more or less atrophy is a fairly constant end result. It is not at all surprising that there should be a few cases of the disease in which atrophy does not occur, as the end-result probably depends upon the severity of the attack and the recuperative power of the tissues.

Now, we can consider in detail Majocchi's 7 characteristics that have been already enumerated.

1. We have seen that hæmorrhage is a constant feature, and that it always occurs as dark-red puncta or lentil-sized spots which do not pale under glass pressure. The puncta may, as in my case, occur occasionally independently of the teleangiectatic macules, but usually they appear scattered throughout the lesion, and are especially numerous at the periphery with, perhaps, a few outlying satellites. Practically all the authors are in accord with this description.

It would seem, then, that the primary lesion is a rose-colored or light-red macule composed of capillary dilatations and ranging in size from a pinhead to a dime. This macule at first disappears under pressure, but later, as in my case, and for reasons previously explained, the color pales rather than disappears under the diascope. Dark-red, hæmorrhagic puncta then appear throughout the lighter-red macule, but as involution occurs in the centre while evolution is progressing at the periphery, it is naturally at the latter site that the puncta are most numerous.

It is generally agreed that there is never any palpable infiltration, nor has hyperæmia ever been detected. There is only one exception to this: Lindenheim noted slight thickening in two lesions in his patient. In fact, all signs of inflammation are wanting. The nearest approach to this is a fine desquamation in my case, and in the cases reported by Vignolo-Lutati, Balzer and Galup, and Lindenheim. Majocchi, also, has noted this feature. In addition, Truffi found œdema of the legs in his case. In my patient there was an erosion of the epidermis in a few lesions, which seemed to be secondary to the impoverished circulation. The only evidence of irritability of the cutaneous vaso-motor system was the dermatography found in a number of instances.

Although Majocchi found the follicles to be involved in all of his early cases and considers this to be an important feature of the disease, it is, nevertheless, occasionally absent. In the 13 cases studied by Majocchi there was only one in which he mentions the absence of follicular involvement. He specifically calls attention to this feature in 3 cases and ignores it in 9 cases. He gives the impression, however, that the follicles were affected in most of his patients. In the remaining 25 cases, including my own, follicular involvement was noted in 13, was not mentioned in 6, and was probably present in 2, and was absent in 4. In other words, there are only 4 out of 38 cases in which it can be said definitely that the follicles were not involved.

2. In all the reported cases both evolution and involution were slow. Even in the absence of relapses, the disease requires several

months or a year or more to run its course. One of the shortest cases was the one reported by Ambrosoli, which began in the first part of July and terminated in November of the same year—a period of about 5 months.

3. In all the cases there were annular lesions and the disposition of the puncta in such lesions would indicate that the development was by peripheral extension—excentric. Majocchi avers that the annular configuration may be produced in one of two ways: 1. By the centrifugal appearance of new puncta with involution of the centre of the teleangiectatic macule. This is the usual procedure, and has been noted by several observers, notably Brandweiner and Truffi. 2. By independent puncta developing close together in an arc, this arc finally becoming a circle through the appearance of new puncta. This manner of circular formation is unusual, but was noted by Ambrosoli and Farrari. In addition to the annular lesions of the hæmorrhagic stage and the teleangiectatic macule of the first period, it should be remembered that linear, serpentine and configurate lesions are occasionally encountered; also isolated puncta, groups of punctate spots and ill-defined plaques without definite configuration.

4. In all the recorded cases the eruption was bilateral and more or less symmetrical. It is always topographically symmetrical, but one region may possess more lesions than the corresponding region of the opposite side.

5. In his last communication Majocchi has modified his original statement regarding the topography of the affection: "The topography of this disease belongs (although not exclusively) to the limbs, especially the lower extremities, while the upper extremities are rarely more than sparsely affected. Usually the dermatosis begins on the lower limbs, in the lowest part, and then spreads to the higher portions. In no case that I have observed has the efflorescence begun on the upper limbs. It usually begins on the instep, but I have seen it develop on the antero-lateral surfaces of the legs, and even on the thighs and on the buttocks. I have never seen annular formations on the soles, but there are occasionally a few teleangiectatic-hæmorrhagic spots on the plantar surfaces. Annular formations may be found on the back of the hands, but I have never seen lesions of any type on the palms. Sometimes, from the sacral region, the dermatosis spreads with great uniformity to the buttocks and upper part of the thighs, while on the lower fourth of the abdomen the efflorescence is very sparse. The trunk is very rarely the seat of the affection. In only three of my cases did I

discover, on the lateral aspects of the trunk and back, isolated spots and sparse and ill-formed annular figures."

There is no doubt but that the disease is, as Majocchi states, essentially one of the extremities and especially of the lower limbs, but the eruption also attacks the trunk rather frequently, although as a rule the lesions are not as numerous as on the legs—and this is also largely true regarding the forearms and arms. Of the 38 recorded cases the eruption was limited to the lower limbs in 15. Lesions were noted on the forearms in 7 and on the arms and trunk in 11, while in 5 cases the location was not especially mentioned, although it could be inferred that the lower limbs alone were affected. The lower limbs were affected in every case.

Brandweiner observed an annular, teleangiectatic-hæmorrhagic lesion on the buccal mucosa in one case and numerous lesions in the axillæ in two cases. Ossola noted a few spots on the dorsal surfaces of the hands, while Nobl discovered a few crown-sized lesions on the soles of the feet. In Verrotti's case there were more lesions on the arms and thighs than on the forearms and legs.

In regard to the location of the first lesion, it is practically always either on the instep or on the leg. The only variation from this, with the possible exception of the infant monstrosity reported by Majocchi, was in Verrotti's case, where the eruption began on the arms and thighs and spread to the forearms and legs.

The size of the lesions ranges from minute hæmorrhagic puncta, pinhead to dime-sized teleangiectatic-hæmorrhagic macules, to annular lesions as large or larger than a silver dollar. Occasionally, as in Lindenheim's case, plaques as large as the palm of an adult male occur.

6. In his last article, regarding the subjective symptoms, Majocchi states: "Usually the disease is not introduced by premonitory symptoms; sometimes there is a sensation of weakness in the lower limbs, and in some instances pains in the joints, especially the knees. Occasionally the development of the eruption is accompanied by slight fever, but this fever seems to be of an accidental or coincidental nature and soon disappears, so that the dermatosis may be said to develop without fever. Lately I have not noticed any pruritus preceding or accompanying the breaking out of the eruption and only rarely have I observed any discomfort from pruritus during the course of the affection."

It is generally agreed that the subjective symptoms are of little moment. Nevertheless, they are more or less constant and characteristic, although in no sense pathognomonic. My patient could

predict an attack by the heavy feeling and more or less pain in the legs. In the literature we find that 13 patients complained of slight pain in the muscles of the legs or in the knee joints. In one of these cases the articular pain was very severe and in several instances there was more or less general articular rheumatism. In 25 cases pain was either absent or its occurrence not recorded. In 5 cases there was slight pruritus. In 13 cases there were no subjective symptoms of any nature and in 10 reports the subject was not discussed.

In Majocchi's latest article he avers that he has never encountered a recurrence of the affection, although he has had several cases under observation for a number of years, and he believes this to be one of the characteristics of the disease. In the same communication, however, while discussing the question of ætiology, he mentions a patient who had completely recovered from an attack of purpura annularis teleangiectodes. Several years later this patient contracted syphilis, and during the course of the lues the purpura annularis teleangiectodes reappeared. While relapses do occur, they are, nevertheless, uncommon. In my case, for instance, there were three distinct recidives. Lindenheim's case had a duration of 15 years during which time new crops of lesions occasionally developed, while the older ones disappeared. In one of Brandweiner's cases there was a mild relapse at the end of a year. In Sachs' case the eruption endured for two years, and while he does not specifically mention the constant or occasional development of new lesions, it is probable that this occurred and was responsible for the rather long duration. In both of Ossola's cases there were periods of retrogression and remission. In my case, in addition to the definite relapses there were times when the eruption seemed to be more noticeable, probably following some form of local irritation. This phenomenon has been noted, also, by other observers. Although relapses occasionally occur, it is important to state that sudden exacerbations have never been observed.

7. The seventh point, namely atrophy, has already been considered.

ÆTIOLOGY.

AGE. Seventeen of the 38 cases were between the ages of 18 and 25; 6 between 26 and 35; 4 over 35; 5 under 18; in 3 instances the ages were not given; one was labeled "young man," and two were adults. The ages under 18 were 3 months, 11, 14, 16 and 17 years. Those over 35 years of age were 39, 40 and 50. It can

thus be seen that while the disease may affect an individual of practically any age, it is most common in late adolescent and early adult life.

SEX. The affection is relatively uncommon in women—only 7 of the 38 cases were females.

OCCUPATION. Occupation does not appear to exert much influence as an ætiological factor. Thus we find laborers, students, seamstresses, musicians, soldiers, domestics, tailors, waiters, clerks, farmers, carpenters, printers, matchmakers, etc. Such various occupations, of course, comprise the extremes of social life and environment, as well as healthful and injurious degrees of physical and mental exercise. In the case of the matchmaker and the three printers, one might think of the possibility of lead or phosphorus poisoning. In fact, there was evidence of chronic lead poisoning in Lindenheim's patient.

NATIONALITY. Twenty-three of the 38 cases were Italians, 11 were Germans, 2 were probably Spanish, 1 was French and 1 was a Greek. Harris' unpublished case was an American. This would apparently exclude climatic and racial predisposing causes.

GENERAL HEALTH. General physical examinations in the recorded cases show that in 18 the general health was perfect; in 3 it was fair; in 4 it was poor.

SYPHILIS. The possibility of syphilis being either the direct or indirect cause of purpura annularis teleangiectodes has been carefully considered from the standpoint of both the clinician and the pathologist. Majocchi, to his own satisfaction, at least, was able to exclude syphilis from all but two of his cases, both clinically and histologically, and he is thoroughly convinced that syphilis plays no rôle in the ætiology of the affection. Before entering into a discussion of this question it will be advisable to first become acquainted with the essential facts regarding the relationship of the two diseases as found in the recorded cases.

In only 2 of the 38 cases was syphilis definitely present, and in one instance there were syphilitic antecedents, but the patient himself was free of demonstrable luetic stigmata. Most of the exclusions were based upon family and personal histories, and a clinical examination which, in some instances, was very thorough, and in 9 cases the Wassermann reaction was found to be negative. In one instance (Brandweiner), in which there was an associated cutaneous syphilide, the latter promptly disappeared under vigorous antisyphilitic therapy, while the purpura annularis teleangiectodes was uninfluenced, and ran through its regular course. This was also true of one of

Majocchi's patients, while another one contracted syphilis several years after an attack of purpura annularis teleangiectodes. De Amicis, on the occasion of the presentation of Farrari's case in 1907, thought that syphilis might be a contributing factor because he had found evidence of a pre-existing lues in a case of purpura annularis teleangiectodes.

Breda (quoted by Pasini) observed an eruption in a syphilitic which corresponded morphologically to purpura annularis teleangiectodes. It disappeared in a few months without having been influenced by antisyphilitic treatment. In all probability this was a true case of purpura annularis teleangiectodes occurring in a syphilitic and analogous to the cases of Brandweiner and Majocchi.

There is one thing that can be said with absolute certainty and that is, that in many instances of the disease syphilis has been positively excluded so far as modern diagnostic methods can exclude a disease. Exceedingly careful examinations were made by Majocchi, Brandweiner, Pasini, Vignolo-Lutati, Truffi and others, and syphilis was ruled out clinically, histologically and serologically. In other instances there were stigmata that might be considered syphilitic, as, for instance, the deformed infant reported by Majocchi and a deformed hard palate in Truffi's case. But whenever these possibly syphilitic deformations were observed, a careful search has failed to demonstrate corroborative evidence in either the patient or the family. The mere fact that syphilis—acquired or hereditary—occurs, in a few instances, in the same patient should have no significance, unless a toxic theory of multiple character is accepted. Although purpura annularis teleangiectodes has developed in two syphilitic individuals (among the 38 recorded cases), it must not be forgotten that in one case an attack of purpura annularis teleangiectodes antedated the acquisition of syphilis by several years. The fact that the former disease relapsed during the course of the syphilis undoubtedly would be interpreted differently by various thinkers. Some would probably suggest that it was a manifestation of syphilis, others that the ætiological factors of the first attack were again active on account of lowered resistance resulting from the syphilis. Still others might suggest, as a cause, the antisyphilitic treatment. In this connection Truffi, in discussing Pasini's paper, cites a case of syphilis in which purpura annularis teleangiectodes did not develop until after large doses of mercury had been administered hypodermatically. In line with this is Pasini's interesting case of a physician who had had purpura annularis teleangiectodes for more than a year. In a consultation with Mibelli, the latter suggested

that the bichloride of mercury which the patient was employing in large quantities to cleanse his hands might be the causative toxic agent. The use of the mercury was discontinued, and in three or four weeks the disease disappeared.

While many, perhaps all, of the histological alterations of this disease may be found, at times, in the various stages of syphilis, yet the histological picture in its entirety does not suggest syphilis. The essential differences are that in syphilis there is a pan-arteritis, while in purpura annularis teleangiectodes the adventitia does not enter actively into the process. In addition, in the latter affection the hyaline degeneration of the vessels, particularly of the tunica muscularis of the media and the aneurismal sacculations are possible, but unusual, syphilitic histologic features.

That teleangiectatic and hæmorrhagic eruptions can be caused by syphilis or give strong evidence of being caused by this disease, must be admitted. But there is not a single case of this kind on record where the histological and clinical features are similar to those of purpura annularis teleangiectodes. A search of the literature reveals a number of interesting papers and case reports.

Pasini reports a very instructive case:

C. A., 40 years of age, male, consulted the author for a generalized papular syphiloderm, mucous patches and other luetic manifestations, including a positive Wassermann. A few days later, on both knees, there was a sudden development of annular, erythematous-hæmorrhagic lesions, confluent and discrete, which bore a striking resemblance to purpura annularis teleangiectodes. The purpuric lesions totally disappeared, along with the syphiloderm, in a few days, under the influence, apparently, of antisyphilitic treatment. The histopathology, studied by Ramazotti, showed acute congestion of the vessels of the papillary body and of the derma, with some extravasation of red cells. There were zones of round-cell infiltration. There were no occluding changes in the veins or arteries of appreciable size. There was a slight hyper- and parakeratosis.

A consideration of this case suggests that the purpuric eruption was coincidental rather than due directly to the syphilitic infection—possibly caused by the mercury or some other toxic agent. One must be careful, however, about accepting theoretical deductions in these cases, for it may be that purpuric and teleangiectatic rashes can be caused by substances in the blood resulting from the presence of spirochætae as well as by the direct action of the organism upon the vessel.

Stokes, of Ann Arbor, has gone very deeply into a study of the teleangiectatic eruptions, especially the generalized eruptions, which have been associated with syphilis. This embraces a study of Ehrman's livedo-racemosa, Hutchinson's infective angioma, Trawinski's

case of teleangiectasia associated with syphilis, Osler's work, Brocq and Lanceplaine's work on essential teleangiectasia, etc. After perusing this work carefully one is impressed with the possibility of syphilis as a direct factor in the production of teleangiectatic lesions, and one is equally impressed with the fact that purpura annularis teleangiectodes is a totally different disease, both clinically and histologically.

In concluding this subject, it might be added that all the observers who have carefully considered their clinical and histological findings are in accord in excluding syphilis as an ætiological possibility, or at least as a constant causative factor (Majocchi, Brandweiner, Pasini, Vignolo-Lutati, Truffi, etc.).

TUBERCULOSIS. To begin with, in only 8 of the 38 cases was there any suspicion of tuberculosis; in 25 cases there was not the slightest evidence of tuberculosis in the patient nor in the antecedents; in 5 cases the question was not discussed. Tuberculin tests were conducted in 8 cases, 3 of which were positive, while the remaining 5 were negative. Most of these tuberculin tests were of the cutaneous variety, but in 2 instances Brandweiner employed subcutaneous injections of old tuberculin. In one patient a positive general reaction was obtained, while the other was negative. In the positive case there was apparently a slight reaction in the lesions, and in both instances the eruption appeared to have been benefited by the injections.

Guinea-pigs were inoculated by Brandweiner, Pasini and others with negative results. Both Radacli and Vignolo-Lutati, without strongly advocating a tuberculous origin for purpura annularis teleangiectodes, but largely for the purpose of showing that the tuberculous diathesis can produce purpuric and possibly teleangiectatic eruptions, call attention to Rona's extensive work relative to the tuberculous purpuras. Vignolo-Lutati also directs attention to the case presented before the French Dermatological Society in 1909 by Gaucher and Louste—a case of purpura of the lower extremities of supposedly tuberculous origin.

Granting that the tuberculous toxines and the tubercle bacillus can produce purpura and even teleangiectasia, it has not as yet, at least so far as is known, produced a single example of an eruption simulating the clinical and histological features of purpura annularis teleangiectodes. Not a single author has been able to definitely connect the two diseases. The fact that so many cases are absolutely negative regarding manifestations of a tuberculous diathesis would

apparently exclude tuberculosis as a constant causative factor or as the only ætiological agent.

The histopathology of the disease indicates a low-grade inflammation due to a reaction of the tissues to a slow-acting toxic agent, and it is the toxic theory that has received the most favor. As we have seen, a number of cases were associated with rheumatism—a few with severe rheumatic manifestations. In one instance (Lier's) there was severe rheumatism with enlarged tonsils which contained multiple pus foci. The tonsils were removed; the development of new lesions ceased at once and involution was rapid. Majocchi, cognizant of the rheumatic and neuralgic manifestations, suggests a primary vaso-motor-trophic disturbance—an angioneurosis. He was even tempted to designate the disease "angioneurosis follicularis annulata." While there is considerable evidence in favor of the toxic theory, it must be remembered that rheumatism or the rheumatic or gouty diathesis is not at fault in every case, as there were many instances in which such a diathesis could be excluded.

In favor of the toxic theory is the irritability of the cutaneous vaso-motor system in some of the cases. Dermographism, for instance, was frequently noted. Ossola was able, through artificial stasis, to produce hæmorrhagic puncta which developed into persistent annular lesions. Pasini, on the other hand, by the same method caused only a livedo reticulata. Brandweiner, in two cases, produced tiny red lesions by mild scratching. Some of these disappeared quickly while others remained for days, and underwent the usual color changes. He was able, also, to cause the occurrence of the same lesions on the apparently normal skin of individuals suffering with vaso-motor irritability. Truffi was unable to produce hæmorrhagic spots through the agency of traumatism.

In discussing the toxic theory it must be remembered that there were 3 cases in which the eruption followed the use of mercury; there were 3 cases in printers, one of which showed evidence of lead poisoning; there was one instance in which the disease was associated with diabetes (Arndt); in several cases there was pronounced evidence of intestinal autointoxication.

Summing up the question of ætiology, about all that can be said is that the causative factor is unknown. The eruption is not a manifestation of syphilis in the sense of a syphilide; it is not a manifestation of tuberculosis in the sense of a tuberculide. The evidence is in favor of the eruption being caused by a toxic body acting on the cutaneous vessels. The nature of this toxic agent is not

known—indeed, it is possible that it may be the derivative, in some cases, of pathogenic bacteria such as the *spirochæta pallida* or the tubercle bacillus; it may be derived from pyogenic bacteria, or it may arise from errors of metabolism, ingested chemicals, etc. On the other hand, the rather constant similarity of the clinical and histological features would suggest the possibility of the same causative factor operating in all cases, or toxins of different origin acting upon individuals with similar predilections. Finally, it should be mentioned that traumatism, heart disease, nephritis, thyroid disease, and many other possible ætiological factors have been considered and rejected.

NOMENCLATURE. Majocchi selected the term *purpura annularis* because it emphasized the most conspicuous clinical features, and because he thought the generic position of the disease was among the purpuras. The descriptive adjective *teleangiectodes* was added to distinguish the affection from other annular purpuric eruptions. But as the disease begins with capillary ectasia and the hæmorrhages are a later and secondary occurrence, Majocchi, realizing that the affection is primarily and essentially a teleangiectasia, suggested the name *teleangiectasia follicularis annulata*. The word *follicularis* was employed because in all of Majocchi's early cases the hæmorrhagic puncta were situated in the follicles. Another name suggested by Majocchi is based upon the possible pathogenesis—*angioneurosis follicularis annulata*. Majocchi has expressed a preference for the second title, but the first one, namely, *purpura annularis teleangiectodes*, is the one in general use, and in spite of the objections that the disease is not essentially a purpura, that the term is long and difficult to remember, and that a name should designate and not describe, this title is likely to remain, for it will be exceedingly difficult to formulate a better one—at least until the ætiology is thoroughly understood.

RARITY OF THE AFFECTION. Thirty-eight cases, including my own, have been reported in more or less detail. In addition to these, there are a number of cases that are not on record. Last summer, Prof. Arndt told me he had seen several unrecorded instances of the affection. Harris, in addition to the case reported at the 1914 meeting of the American Dermatological Association, writes me that he has another example of the disease under observation. Engman and Mook, in a verbal communication, state that they can recall a number of cases which they now believe were examples of *purpura annularis teleangiectodes*. Mook was kind enough to send me some

photographs of one of the patients, but I was unable to identify the disease with certainty from the photographs and Mook could not locate the history card. Campana, in discussion, speaks of having seen several cases. Hammer reported a case in which the meagre details would not allow of identification. Oppenheim, in discussion, reports having encountered several cases in Finger's clinic. Herxheimer and Köhler reported 3 cases, only one of which bore any resemblance to purpura annularis teleangiectodes. In all probability, when this affection is widely recognized it will be found to be an uncommon but not necessarily a rare disease.

DIFFERENTIAL DIAGNOSIS. The slow development, long course and three stages, together with the absence of acute exacerbations and inflammatory signs should serve to distinguish purpura annularis teleangiectodes from the ordinary forms of purpura—purpura simplex, purpura rheumatica, peliosis rheumatica, Henoch's purpura, etc. There are, however, cases of simple purpura which, upon superficial examination, may simulate purpura annularis teleangiectodes. Pasini's case of syphilis with an annular purpuric eruption on the knees may be cited as an example. I herewith append a photograph* of a patient from Dr. Fordyce's clinic with macular, annular, linear and gyrate purpuric lesions situated mostly on the legs, thighs, buttocks, arms and forearms. The lesions ranged in size from split-pea to dime. They were composed of hæmorrhagic puncta and were pigmented. There was no definite teleangiectasia, but, instead, a delicate erythema. The clinical picture was strikingly like purpura annularis teleangiectodes, but the onset was sudden and the eruption disappeared in a few days. The text-books mention cases of simple purpura with durations of from one to five years, but here the disease is continued throughout this long period by repeated attacks—the individual lesions never last more than a few days or a week or two. Even in a hypothetical case of purpura associated with erythema perstans it is doubtful if the clinical picture would be difficult to distinguish from that of purpura annularis teleangiectodes.

Annular, teleangiectatic lesions, associated with slight atrophy, are characteristic of Hutchinson's infective angioma. Wise, in his excellent article on this subject, has shown that the two affections have nothing in common. There is rarely, if ever, any hæmorrhage or pigmentation in infective angioma, the disease has a duration of years if it is not permanent, and of course it does not possess the

* This photograph appeared in Part One, which was published in the February issue (page 141).

three distinct stages of purpura annularis teleangiectodes. Pollitzer, who conducted the histopathological examination in Wise's case, found a low-grade inflammation with œdema, new formation of capillaries, and a perivascular infiltration of lymphocytes. Also an endarteritis which did not apparently progress to the point of complete obliteration. The vascular changes were found in the papillary and subpapillary layers of the corium.

As already mentioned, Stokes has collected all the recorded cases of generalized teleangiectasia associated with syphilis, and there is nothing clinically or histologically in common between such cases and purpura annularis teleangiectodes. The same may be said relative to the various examples of purpura occurring in connection with the tuberculous diathesis.

Herxheimer and Kohler report three cases of a congestive dermatosis in which there were lesions on the legs simulating, to a certain extent, those found in purpura annularis teleangiectodes. In the discussion it was mentioned that such lesions could be produced by the varicosities which were manifest on the legs of the three patients. The details of the cases are rather meagre, but their careful study, together with a perusal of the discussion, shows that the typical clinical and histological features of purpura annularis teleangiectodes were wanting and that a diagnosis of congestive dermatosis associated with varicose veins was accepted.

In this discussion Blaschko compares purpura annularis teleangiectodes with Brocq's erythroderma, which he says is often associated with slight hæmorrhage. Jadassohn, replying to Blaschko, admits that minute hæmorrhages may occur in erythroderma, but that teleangiectasia in this disease is unknown, and that the two diseases bear no resemblance to one another. Indeed, it is difficult to imagine how purpura annularis teleangiectodes can be confused with any form of parapsoriasis.

In concluding the subject of differential diagnosis, it can be said that purpura annularis teleangiectodes presents in its entirety clinical and histological characteristics possessed by no other known dermatosis. It is then a definite entity, easily differentiated from other affections possessing more or less similar features.

TREATMENT. Treatment is unsatisfactory. Brandweiner thought he observed some improvement following the injection of tuberculin. Majocchi considers that mud baths have some value. Ambrosoli and others are of the opinion that the alimentary canal should be vigorously attacked from a therapeutic standpoint. Arsenic has been of no service, nor has mercury. Antirheumatic remedies have not

proven efficacious. In my case there was possibly some improvement following the application of stimulating chemicals such as resorcin.

DISCUSSION OF THE HISTOPATHOLOGY.

Histopathological examinations were made in 17 of the 38 tabulated cases. It will not be profitable in this discussion to compare the various findings in the different cases. Such a comparison and tabulation will be found in the histological chart and the review of the literature which were prepared for this purpose. In some ways, however, the chart is misleading as it deals only with the histological features mentioned in the case reports and does not include the explanations, elaborations and generalizations which in some instances accompanied the case reports. Also, if one is guided exclusively by the chart, or by the formal or conventional histological reports, the fact is likely to be overlooked that the biopsies were made at various stages of evolution of the disease, in patients of various ages and in lesions of different clinical types, and therefore must be expected to differ considerably; also in many instances the biopsy incisions were not sufficiently deep, so that the early changes in the deeper vessels were not observed. In the composite histological picture at the beginning of this communication, I gave a summary of the histopathology of the disease based upon a study of all the recorded cases, including my own. A careful perusal of the histopathological reports shows that there is a striking similarity in the findings; and in every instance the variations are no greater than might be expected to occur in accordance with the precise moment in the evolution of the disease at which the tissue was removed, and also, in accordance with the severity of the attack.

We therefore note the same differences in the histopathology as were seen in the morphological and clinical features of the affection. The secondary changes in the epidermis, derma, hypoderma and adnexa are comparatively unimportant and are given in sufficient detail in the review of the literature. There are, however, the important primary vascular changes and consequent deductions that are well worthy of special consideration, especially as regards pathogenesis and morphology.

Majocchi found that the first change consisted of an obliterating endarteritis of a subdermal arteriole. The endarteritis was caused mainly by proliferation of the intima. In some instances, however, there was a thickened media, not due to hypertrophy, but to a relaxation of its component parts. The adventitia, formed of quite com-

pact connective tissue fasciculi, appeared to be rather attenuated, of a uniform thickness, and rarely infiltrated with sparse round cells. These obliterated arterioles, which seemed slightly enlarged, assumed, in transverse section and under low power, the appearance of round areas of fibrous structure which lay deep in the subcutaneous tissue. He explains that this occlusion at a circumscribed point in the hypodermal arteriole is followed by an increased pressure in the venous, lymphatic and plasmatic circulation in the parts supplied by this artery, and as the veins of the corresponding vascular tract rapidly become affected in a similar manner, the circulation of the overlying vascular plexus is greatly modified. Next the veins and arteries of the deep derma become dilated, and many of them show changes in the tunics, especially the media. The media undergoes relaxation, and finally hyaline degeneration with the formation of the peculiar aneurysmal sacculations with subsequent hæmorrhages, due either to the ruptured sacs or to diapedesis through the softened and weakened vascular walls. At the same time the most superficial capillaries become affected. In this way Majocchi explains the clinical teleangiectasia, hæmorrhage and pigmentation. He thinks that the annular configuration is due to the involvement of adjacent vascular cones, while the ones previously affected undergo involution and atrophy.

Pasini draws attention to the anatomical disposition of the cutaneous vessels. It is known, he says, "that the cutaneous circulation is considered at present to be divided into two principal planes—the deep subdermal plane and the superficial or subpapillary plane, with communicating vessels between the two planes and the terminal vessels above the superficial network. The communicating vessels passing through the derma reticularis give branches that mostly tend to diverge as they run upward. Thus many distinct vascular districts are produced, each one of which can be schematically represented by a figure of a cone having its apex in the deep network and its base in the superficial cutis.

"On account of this disposition it happens that in the superficial circulatory layer, which is necessarily the more accessible to observation, one finds distributed as many vascular territories of circular or oval figures as correspond, in a way, to the base of these cones. These vascular territories are named, by the way, territories of direct irrigation. Given their intimate relations, each one with a distinct communicating vessel, they are up to a certain point separate and distinct, one from the other, in the layer of the superficial network; for if it happens that they alone should be injected

in an abnormal manner on the cutaneous surface, there will necessarily be produced some distinct areolæ of hyperæmic redness. But on the other hand, the circulatory layer, in fact, forms a continuous network by the presence of the anastomatic vessels which put in communication the territories of direct irrigation with one another. Therefore, one must admit that all the interstices that remain between the different territories are occupied by a collateral network having somewhat the figure of as many rings as there are territories around which it is placed. And of the existence of such a collateral network we have the proof, as is shown in certain figured erythemata (especially in the so-called livedo annularis of cold), in which it alone, or rather it in particular, is hyperæmic (Mibelli).

"Each single territory of direct irrigation takes origin from an artery of rather good size and gives rise to a collecting vein of good size. What happens when one of these arteries or veins become constricted or its lumen becomes occluded? In the first case, when the artery is affected, we have ischæmic manifestations in the territory of direct irrigation, with hyperæmia of the collateral network, and this is precisely what we see in livedo annularis due to cold. In the second case, when the vein is affected, we see immediate hyperæmic manifestations in the territories of direct irrigation; having reëstablished in it a certain amount of circulation when there is greater pressure brought on it by the arteries (as can be seen by the hypertrophy of the arterial muscular coats) the hyperæmia of the territory of direct circulation can diminish or even disappear, but there will remain, on account of the disturbed circulation of this vascular cone, a hyperæmia more or less lasting, of the collateral network that surrounds it.

"With these premises it is easy to understand how I wish to explain, in reckoning the facts that I observed in my case, the pathogenesis of purpura annularis teleangiectodes.

"I consider the first change that which I found most conspicuous; an obliterating phlebitis of a subcutaneous collecting vein of the subdermal circulatory layer. Following this we have: histologically, the stasis, with dilatation of the vessels of the corresponding vascular cone, the small aneurysmal formations, the slight œdema with degeneration of the connective tissue of the collagen and of the muscular bundles; clinically, the teleangiectatic macules of the initial period of the disease.

"In continuation, this process that has occurred in the collecting vein can extend to the small, fine vessels of the vascular cone, so that greater pressure is brought to bear on the arteries. Whence, we

have histologically the perivascular infiltrates, the hæmorrhages, either by diapedesis through the dissociated vessels or by rupture of weakened walls, the hypertrophy of the muscular coat of the arteries and hyaline degeneration, and clinically, the hæmorrhagic and pigmentary changes.

"In a later period the changes in the vascular cone can diminish or resolve, sometimes with atrophy of the tissues. At the same time the process may continue and persist in the collateral network. In consequence we have: histologically, in the collateral network, the existence of identical changes to those found preceding in the territory of direct irrigation; clinically, the annular formation, of long duration, of the exanthem.

"The configuration of purpura annularis teleangiectodes therefore seems to be intimately related to the particular conditions of the cutaneous circulation, conditions which to a certain degree can be reproduced, as Ossola did on the forearm and I did on the legs, by artificially obstructing the return circulation."

Vignolo-Lutati believes, with Majocchi, that the primary change is in a subdermal artery and that the immediate subsequent changes are limited to the zone or cone of direct irrigation. He then, in accord with Pasini and Radaeli, considers that there is a retrogression of the alterations in the zone of direct circulation while the process extends to the collateral network—thus explaining the centrifugal growth of the lesion.

Radaeli considers the most important primary alteration is the occlusion, by endarteritis, of one of the deep-seated arterioles, and he has formulated the following hypothesis:

"We know that when a coloring matter is injected into cutaneous blood vessels, round or oval spots occur, each of which corresponds to the region of distribution of a deep-seated arteriole, which is divided so as to form a sort of cone, with its base turned toward the free surface of the skin (cone of direct irrigation). This cone does not represent a terminal system, which explains why it first is filled by the artificial injection, and why congestion occurs primarily in this cone from internal causation in many dermatoses.

"But if we continue to observe the injected colored mass, we shall see a secondary process, namely, the formation of annular patches; the injection is now penetrating the anastomosing system in which the circulation is less free. While the centre of the patches may be considered as areas of free circulation, the zones corresponding to these anastomosing systems (zones around the initial macule) should be looked upon as areas of lowered circulation. In these latter

Author	Identification	Number	Age	Sex	Occupation	Nationality	Year of Publication	Duration before observation
Majocchi.....	E. J.	1	21	M.	Laborer	Italian	1896	1½ yrs.
Majocchi.....		2	Young man	M.		Italian	1898	
Majocchi.....		3	3 mos.			Italian	1896 1898	3 mos.
Majocchi.....	P. D.	4	22	M.		Italian	1898	4 yrs.
Majocchi.....		5	25	M.		Italian	1898	Few mos.
Majocchi.....	V. A.	6	23	M.		Italian	1904	3 mos.
Majocchi.....	G. M.	7	35	F.	Maker of matches	Italian	1904	2 mos.
Majocchi.....	A. N.	8	20	M.	Printer	Italian	1912	
Majocchi.....	D. B.	9	18	M.	Musician	Italian	1912	
Majocchi.....	N. N.	10	32	M.	Soldier	Italian	1912	
Majocchi.....	M. N.	11	32	F.	Laundress	Italian	1912	3 mos.
Majocchi.....	E. M.	12		F.		Italian	1912	6 mos.
Majocchi.....	G. L.	13	18	F.	Domestic	Italian	1912	5 mos.
Arndt.....		14	50	M.		German	1907	6 yrs.
Vignolo-Lutati	M. G.	15	11	M.		Italian	1908	2 mos.
Vignolo-Lutati	L. F.	16	24	M.	Tailor	Italian	1916	
Balzer and Galup.....	A							

Farrari..

areas, just as artificial injection is not easy, so the circulatory impulse becomes less direct and less energetic; therefore stasis occurs here more readily, as is also shown by the fact that these areas are liable to stasis in consequence of cold (*livedo annulata*).

"With these facts in mind, it seems to me logical to believe that when there is a diminution of the circulatory impulse (the *vis a tergo*) through obstruction of a deep-lying cutaneous artery, the slowing of the blood current would, primarily, make itself evident in the region of annular formations with lowered circulation, and here usually give rise to vascular dilatation, to nutritional disturbances of the tissues, and to hæmorrhages.

"In favor of this hypothesis, it seems to me (as far as I can judge from my cases and the published illustrations) that there is also the resemblance between the rings of purpura annularis teleangiectodes, both in form and size, and *livedo annulata*.

"According to my interpretation of the pathogenic origin—an interpretation which possibly might also be applicable to other eruptions with figuration and with marked vascular changes—we can readily understand (as demonstrated by Majocchi and confirmed, as I believe, by myself) the evidence of endarteritis obliterans being usually present in the centre of the patch, while in the teleangiectatic-hæmorrhagic ring the prominent features are ectasia and degeneration of the vascular walls. There might be objection raised here, that if my contention is a correct one, the formation of the ring should be primary, and never secondary to the resolution of a primary central focus. To this objection I would reply, that one cannot exclude the fact that also just beneath the point of occlusion of the primarily affected arteriole, there arises a condition of stasis, a vascular dilatation and a hæmorrhagic focus; this occurs particularly when the artery closes suddenly. It appears to me, therefore, that the greater or less rapidity with which the primary changes occur may be a key to the explanation of secondary hæmorrhagic and teleangiectatic symptoms. Slow changes, with a gradual diminution of the *vis a tergo*, appear to me to correspond to stasis and ectasia in the region of lowered circulation, thus leading to annular formations; whereas, rapid changes with sudden occlusion of the blood vessel would induce the secondary symptoms, primarily localized in the region immediately beneath the affected blood vessel, in the cone of direct circulation."

To be continued in the April issue.

PATHOLOGICAL CHART

The case numbers correspond to the case numbers in the clinical chart. *C* means centre of lesion. *M* signifies margin of lesion

AUTHOR	No.	EPIDERMIS	DERMA	BLOOD VESSELS	ADNEXA	HYPODERM
Majocchi.	3	<i>C.</i> Thinned and pegs lost.	<i>C.</i> Hemorrhage; pigment. Perivas- cular round cell infiltration. Colla- gen thickened with beginning sclerosis. <i>M.</i> Hemorrhage; pigment.	<i>C.</i> Fewer than normal; dilated; filled with blood; sacculations. <i>M.</i> Dilated; filled with blood; constrictions.	<i>C.</i> Follicles atrophic.	<i>C.</i> Atrophic. Vascular changes.
Majocchi.	7	<i>C.</i> Thinned; pegs lost. <i>M.</i> Slightly thick- ened.	<i>C.</i> Oedema. Collagenous fibres closely packed—run horizontally and obliquely. Elastica reduced. Vessels surrounded by hyper- trophic connective tissue. <i>M.</i> Oedema. Elastica swollen. Hemorrhage.	<i>C.</i> Very few. Obliterating endarteritis espe- cially of deep vessels. No active eosinophilic. Media thickened by swelling and looseness. Intima markedly thickened. <i>M.</i> No marked increase. Dilated. Produce groups. Usually empty. Obliterating endar- teritis. All coats participate, but media mostly. Hyaline degeneration. Sacculations.	<i>C.</i> Follicles atrophic; also coil and sebaceous glands. Muscles degenerated. <i>M.</i> Early stage of atrophy and degeneration of folli- cles and coil glands. Hyal- ine degeneration and atrophy of muscles.	<i>C.</i> Atrophic. Vascular changes.
Majocchi.	8 and 13	<i>C.</i> Attenuated; pegs lost.	<i>C.</i> Oedema. Retraction of connec- tive tissue. <i>M.</i> Hemorrhage.	<i>C.</i> Reduced in number. Dilated; some full of blood. Deep vessels mostly affected. Endar- teritis obliterans. Adventitia thinned. Media swollen and loose. Proliferation of intima. <i>M.</i> Media swollen and shows hyaline degenera- tion. Vessels eroded and sacculated. Ruptures.	<i>C.</i> Muscles oedematous and atrophic. Sebaceous glands atrophic. Coil glands slight- ly affected.	<i>C.</i> Atrophic. Vascular changes.
Vignolo-Lutati.	16	<i>C.</i> Atrophic. Pegs destroyed. <i>M.</i> Thickened.	<i>C.</i> Papillary layer compact. Col- lagenous bundles in reticular layer slightly torn apart. Elastica re- duced in papillary layer. <i>M.</i> Oedematous. Perivascular round cell infiltration. Free hemorrhage.	<i>C.</i> Nearly absent in papillary layer. Reduced throughout. Deep vessels show obliterating endarteritis at expense of intima. Outer wall thinned. Media normal or swollen. Vessels empty. <i>M.</i> Dilated; filled with blood. Loosening of ad- ventitia. Media thickened by separation of bundles and shows hyaline degeneration. Sacculations.	<i>C.</i> Follicles, sebaceous glands and muscles have disappeared. Few distorted coil glands. <i>M.</i> Oedematous.	<i>C.</i> Atrophic. Vascular changes.
Balzer and Galup.	17	.....	Perivascular round cell infiltration. Extravasated red cells.	Dilated; engorged with blood.	.....	.....
Brandweiner.	21	Practically normal.	Slight perivascular infiltration of round cells. Extravasated red cells.	Vascular changes mostly in papillary and subpa- pillary portions. Dilated; filled with blood.	Normal.	Normal.
Brandweiner.	22	Practically normal.	Perivascular round cell infiltration. Extravasated red cells and pigment. Collagen oedematous and moder- ately sclerotic in upper layers. Elastic tissue reduced in sclerotic parts and absent in areas of infil- tration.	Capillaries not markedly dilated. Most marked changes in deeper layers. Adventitia prolifer- ated. Media homogeneous. No contraction of lumen.	Normal.	Vascular changes.

Brandweiner.	23	Practically normal.	Papillary body well developed; papillae oedematous, elongated and broadened. Perivascular infiltration. Few free red cells. Collagen in upper part slightly oedematous and a trifle sclerotic.	No dilatation. Connective tissue cells of adventitia proliferated.	Normal.	
Radaeli.	25	Attenuated.	Papillae obliterated. Dilated lymph spaces. Collagen slightly homogeneous. In upper layers elasticity reduced; entirely missing around coil glands. Slight perivascular round cell infiltration. Haemorrhage; most marked in deep layers.	Many of the vessels of papillary layer have disappeared. Those remaining are enormously dilated. Some engorged with blood, others empty. They have endothelial lining with homogeneous or fibrous wall. In reticular layer vessels are almost obliterated by proliferated endothelium. Most noticeable in deeper layers. Media and adventitia not markedly altered. Some vessels, especially follicular, show most marked change in media, with but slight alteration of intima or adventitia. Hyaline degeneration; sacculations; ruptures.	Sebaceous glands degenerated. Coil glands degenerated and separated from supporting structure. Follicles and muscles degenerated.	Vascular changes.
Osola.	27	Thinned. Blood pigment in basal membrane.	Papillae almost absent. Haemorrhagic foci. Marked perivascular round cell infiltration.	Endarteritis, periarteritis, and phlebitis in papillary and subpapillary vessels. Dilated and engorged with blood. Some vessels show weakened walls and some are ruptured. Hyaline degeneration.	Hyaline degeneration of muscle.	
Lindenheim.	30	Secondary changes.	Perivascular small round cell infiltration. Some infiltration independent of the vessels. Haemorrhagic and pigment foci. Hyaline degeneration of collagen. Collagen increased in places.	Enormous engorgement of capillaries. In reticular layer inflammation of vessel walls and proliferation of intima to point of complete obliteration. Sacculations and ruptures.	Hyaline degeneration of muscle.	
Pasini.	31	Normal.	Papillae oedematous. Collagen oedematous. Diapedesis of red cells. Haemorrhagic foci. Elastic tissue normal. Slight perivascular round cell infiltration.	In subcutaneous tissue veins show lymphocytic infiltration of all coats, with endothelial proliferation leading to obliteration. Arteries show hypertrophy of media, from slight increase to obliteration of lumen, but without degenerative changes. In all layers of derma capillaries are increased, dilated, filled with blood and show infiltrated walls and slight proliferation of endothelium. Hyaline degeneration in all vessels showing infiltration.	Follicles and sweat glands normal. Some hyaline degeneration of muscle.	Normal. Vascular changes.
Truffi.	34	C. No atrophy. M. Intercellular oedema.	C. No atrophy. Haemorrhagic foci. M. Perivascular round cell infiltration. Haemorrhagic foci. Dilatation of lymph spaces. Elastica absent in infiltrated areas.	C. Changes similar to those of margin. No mention of regeneration. M. In papillary layer few dilated capillaries filled with blood. Same only more numerous and more marked in deeper layers. Endothelial proliferation with obliteration. Most vessels surrounded by sheath of lymphocytes and perithelial cells.	C. Follicles, sebaceous and coil glands not remarkable. M. Muscle bundles distended and separated.	

PATHOLOGICAL CHART—Continued

AUTHOR	No.	EPIDERMIS	DERMA	BLOOD VESSELS	ADNEXA	HYPODERM
Ambrosoli.	35	Practically normal.	Collagen swollen and relaxed. Normal elastica. Moderate perivascular lymphocytic infiltration. Hemorrhagic foci.	Veins in hypoderm showed endophlebitis obliterans. Intima proliferated to point of complete occlusion. Media infiltrated, dissociated and showed hyaline degeneration. Adventitia infiltrated. Arteries of hypoderm practically normal. All through derma vessels increased in number. Some are dilated, filled with blood, showing normal intima and dissociation of media and adventitia with sacculations and rupture. Others show proliferated intima with infiltrated, dissociated and degenerated media.	Muscles show degenerative changes. Other adnexa are normal except for vascular changes.	Vascular changes.
Balina.	36	.....	Collagen sclerotic. Perivascular round cell infiltration.	Vessels of derma dilated and filled with blood.	Sebaceous glands almost disappeared.	
Balina.	37	.....	Collagen sclerotic. Perivascular small lymphocytic infiltration.	Vessels of derma dilated and filled with blood.	Sebaceous glands almost disappeared.	
Mackee.	38	C. Atrophy and erosion. M. Edema and slight acanthosis.	C. Edema. Slight degeneration of collagen. Hemorrhagic foci. Pigment. Occasional area of coagulation necrosis. Elastic tissue reduced. Very slight perivascular infiltration. M. Edema. Hemorrhagic foci. Moderate perivascular round cell infiltration.	C. Hyaline degeneration, sacculation, and rupture. Complete destruction of vessels. Fewer vessels than normal. M. Marked increase in number of capillaries; arranged in groups. Dilated and mostly filled with blood. Proliferation of endothelium and occlusion of lumen.	C. Only appendages present are coil glands. They show mucinous degeneration of supporting structure.	Vascular changes.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, Nov. 24, 1914.

H. J. SCHWARTZ, M.D., *President*.

CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient was a boy, 12 years of age, born in America. Limited to the forearms and hands were numerous peculiar whitish macular lesions, about the size of a split pea. Some of these were slightly puffed, and might be termed maculopapular. They were scattered and the color of the normal skin seemed to be lost. There were no subjective symptoms.

DISCUSSION.

DR. FORDYCE said that the case was not at all like one he had had under observation at the City Hospital, in which there was a distinct infiltration. In that one there was some atrophy after a while, but no leucoderma and no pigmentation.

DR. ELLIOT said that at first he had thought it was a patch of leucoderma, and suggested the desirability of a histological examination. It might have been an instance of what was reported a number of years ago in Unna's Atlas of Rare Skin Diseases, of loss of elastic tissue and pigment—first of all a swelling, then a loss of pigment, and atrophy of the elastic tissue. The nature of the condition could be determined only by histological examination.

DR. TRIMBLE expressed his pleasure that these various cases had been referred to, and said that he would endeavor to look them up.

RAYNAUD'S DISEASE. Presented by DR. TRIMBLE.

The patient came from the Skin and Cancer Hospital and showed great improvement since he had first come under observation. When first seen, his cheeks and nose were very livid and dark blue—there was a symmetrical gangrene of a very mild form. Since being in the hospital and receiving care and attention, he had greatly improved. According to the patient's statement, he had had these attacks about once every four years. Wassermann 4 plus.

DISCUSSION

DR. WHITEHOUSE did not think it a true case of Raynaud's disease but rather one of pernio.

DR. HOWARD FOX said that the positive Wassermann reaction would suggest that the condition was due to a syphilitic endarteritis affecting the smaller vessels.

DR. FORDYCE agreed with Dr. Fox that the condition was a syphilitic endarteritis.

DR. CLARK said that the patient gave a history of having been frozen some time ago. His nose and both ears had been frozen. He recovered from that, and was again exposed to the cold four years ago. It would seem to be a pernio.

DR. WINFIELD and DR. SCHWARTZ thought it was a syphilitic endarteritis.

DR. TRIMBLE agreed that it was an endarteritis from some cause, but did not think the condition was due to lues, although the patient gave a 4 plus Wassermann. The sudden onset and the extremely livid appearance coming on

acutely with bleb formation and ultimate superficial gangrene, from which he recovered so quickly without luetic treatment, led one to think that it was not the endarteritis caused by lues. There was no clinical evidence of lues, only the positive Wassermann reaction.

SCLERODERMA IMPROVED BY TREATMENT. Presented by DR. MACKEE for DR. FORDYCE.

R. G.; female; married; age, 45; from Dr. Wise's service at the Vanderbilt Clinic. The duration of the affection was about two years. When the patient came under observation a few months ago, she had a diffuse scleroderma involving the abdomen and chest. This did not improve under thyroid extract alone. She was then massaged twice weekly and the thyroid discontinued. Later, after improvement had set in, thyroid was again administered. When presented to the Society there was very little evidence of scleroderma. The speaker said that the evidence seemed to point to the massage as the cause of the improvement although, of course, the thyroid extract might have had considerable influence.

DISCUSSION.

DR. TRIMBLE said that in the two dermatological clinics with which he was connected he had given thyroid extract regularly to every case of scleroderma, but had never seen any improvement result from it.

DR. SCHWARTZ told of a case of scleroderma treated with thyroid at the Cornell Dispensary without any benefit, but which entirely disappeared during a subsequent pregnancy. The improvement might have been attributed to the higher activity of the thyroid known to occur during pregnancy.

ATROPHIA CUTIS IDIOPATHICA AND SYPHILIS. Presented by DR. MACKEE for DR. FORDYCE.

A. C.; seamstress; widow; 44 years of age; from Dr. Wise's service at the Vanderbilt Clinic. The luetic eruption was limited to the legs, and was of 4 years' duration. The skin of the hands and forearms was atrophic and translucent. The forearms showed sclerodermic changes. Over the elbows, the knees and the backs of the hands the skin was markedly wrinkled. On both legs, extending from the instep almost to the knee, and nearly surrounding the limb, was a serpiginous syphilide. The advancing margin was infiltrated and nodular, while the main part of the patch was composed of scar tissue and deeply pigmented skin with here and there an area of infiltration. The leg lesions had undergone a marked improvement under the influence of salvarsan and mercury, but the atrophy, which was of many years' duration, was not affected. The Wassermann reaction was strongly positive.

DISCUSSION

DR. CLARK agreed with the diagnosis and thought that the condition was distinctly syphilitic.

DR. WHITEHOUSE said that the case was similar to one presented by Dr. Fordyce some time before as a case of syphilis. The whole picture was like that of his case, and it might well be due to syphilitic disease of the blood vessels.

DR. KINGSBURY said that the case had been under Dr. Fordyce's treatment some years ago and that the condition then was distinctly syphilitic. The patient gave then a history of having had the atrophic condition for some years.

DR. FORDYCE agreed with Dr. Whitehouse that all the lesions were probably syphilitic and due to the primary involvement of the blood vessels of the skin.

He recalled a case of his own which was reported several years ago, in which there were typical lesions of diffuse atrophy, which, on histological examination, showed obliterative changes in the blood vessels of the skin. Later on, this patient developed typical skin gummata. In his opinion, it was important in a case of diffuse atrophy to have the Wassermann test made.

ONYCHOMYCOSIS. Presented by DR. MACKEE for DR. FORDYCE.

D. S., a married woman, 25 years of age, was from Dr. Wise's service at the Vanderbilt Clinic. The condition was of one year's duration and was limited to the nails of the fingers. All the nails were affected. Most of them presented transverse furrows and ridges and they appeared thicker than normal. Two of the nails, however, were thinned, especially at the margins and here, the nail was ragged and the surface was exfoliating. Spores were demonstrated in the scales from these nails. There was, in addition, a marked suppurating paronychia of every finger.

DISCUSSION.

DR. ELLIOT was not prepared to say that it was onychomycosis, as he did not think a positive diagnosis could be made without the microscope; but that he would like to make a suggestion as to treatment. Every one knew that cases of onychomycosis were almost hopeless, and at best, most tedious; but he had employed a method of treatment which had proved excellent. One of his patients had for fifteen or eighteen years a typical onychomycosis—Dr. Schwartz had seen the case a number of times—but all the treatment that could be thought of, had proved useless. Finally, the man's fingers were baked in a machine such as was used for rheumatic joints. The nails grew back after only a few exposures, and became normal. In view of this result, it might be worth while to try similar treatment in such cases—dry heat at 350° to 400° Fahr. Evidently the fungus dried up, for the nails came out all right.

DR. HOWARD FOX said that every one would agree with Dr. Elliot that the ordinary salves, etc., gave unsatisfactory results, but that no one had said anything about X-ray treatment. He had seen some good results from this treatment. He then asked Dr. Elliot how many bakings his patient had received.

DR. ELLIOT replied that two bakings did the work, and that he had seen cases which received a number of X-ray treatments without any benefit—though they may have improved temporarily, there was later a relapse of the condition. Even the extraction of the nail produced no effect. The literature showed that that was the history of all these cases. The patient to whom he had referred had had no return of the condition, after six to seven months. He did not know that the baking treatment had been tried before, but it was a very simple one and seemed worthy of further trial.

DR. MACKEE said that he was much interested in Dr. Elliot's remarks and that he would try the baking treatment. The speaker said that his best result had been obtained by the use of the X-ray, especially since the advent of the intensive method of treatment. Occasionally a case would recover after one treatment, but in the majority of instances three to six treatments were required at monthly intervals, requiring a total of from three to six months to produce a cure. When several treatments were given the nail would be lost temporarily, but would return in a few weeks. The most recent technique was the use of the Coolidge tube, about a No. 10 Benoist ray, filtered through 3 millimetres of aluminium. The quantity would range between 4 and 8 Holzknicht units, depending upon the age of the patient, the amount of inflammation present and whether or not irritating chemicals had been previously applied.

PSEUDO-PELADE. Presented by DR. MACKEE for DR. FORDYCE.

S. K.; from Dr. Wise's service, Vanderbilt Clinic; female; married; age, 28. The affection was limited to the scalp and had been present for 4 years. It consisted of dime to palm-sized areas of complete alopecia. The more recent patches showed a marked erythema, scaliness and pustular folliculitis. Other lesions depicted scaliness and folliculitis at the periphery with erythema in the centre. The older areas showed considerable atrophy and scarring with more or less erythema. The speaker said a diagnosis of lupus erythematosus had been carefully considered, but that pseudo-pelade had been favored on account of the looseness of the scales, the pustular folliculitis, and the rapidity of the process.

DISCUSSION.

DR. ROBINSON said that there was so much scar tissue that it was difficult to make a diagnosis, but that he would be inclined to call this a case of folliculitis decalvans. There appeared to be a mild folliculitis, a condition not observed in alopecia areata. In the latter disease, there was no scar tissue formation, and the atrophy was the result of the absence of the hair shaft proper, and also sometimes an atrophy of the hair follicle sheaths. There was no scar tissue formation in alopecia areata—there was not even an atrophy of any of the perifollicular tissues. Dr. Robinson said that he considered the present case to be one of parasitic folliculitis of a special type, to be regarded clinically as an example of folliculitis decalvans and not an alopecia areata—not an area Celsus.

DR. WINFIELD and DR. TRIMBLE agreed with the diagnosis of pseudo-pelade.

DR. WHITEHOUSE would not attempt to make a diagnosis without a further study of the case. He thought he had seen evidence of a scaliness which suggested lupus erythematosus. In his opinion the cicatrices seemed to be the end product of an inflammatory process.

PARAPSORIASIS EN PLAQUES. Presented by DR. WISE.

The patient was a healthy and robust woman, a widow, 26 years of age. The previous history was negative. About two years ago, erythematous and moderately scaly, superficial, reddened, ill-defined patches appeared on the arms and legs. They resembled seborrhœic eczema and itched very slightly. These patches increased in number and size, gradually implicating the skin of both extremities, as well as the trunk and buttocks. Upon presentation, the thighs and buttocks showed a number of large and small yellowish-red, confluent, slightly scaly and superficial patches. Isolated plaques of similar appearance were seen on the trunk, back and arms. There were no subjective symptoms. The dermatosis had resisted all the ordinary therapeutic measures, including chrysarobin externally and arsenic internally. The patient thought that the erythematous area had become partly blanched from exposure to the Kromayer lamp.

PARAPSORIASIS, LICHENOID TYPE. Presented by DR. WISE.

The patient, a man 34 years of age, single, first presented himself at the Dispensary of the Beth Israel Hospital two years ago. At that time, the lesions were practically the same as they appeared at the time of presentation. The dermatosis consisted of a large number of irregularly scattered macules and papules, varying in size from a pinhead to a lentil, involving the skin of the entire chest, abdomen, and back. Scaling was absent, but a slight desquamation was produced by scratching the papules with the finger nail. The color was rose-red to dark red. The appearance closely resembled a maculo-papular secondary syphilide. There were evidences of marked dermatographism, a characteristic symptom of the disease. The Wassermann test was negative. The lesions showed no tendency to recede under internal and external medication.

BROMODERMA. Presented by DR. WISE.

The patient, a native of Russia, 61 years of age, came from the Beth Israel Dispensary. Two years ago he began to have attacks of epilepsy, and since then he had been taking bromides. He presented a marked papulo-pustular bromoderma of the face, and another type of eruption on the calves of the legs and on the thighs. Here the lesions consisted of dollar-sized, crusted, rupial ulcerations, exuding foul-smelling pus. Underneath the crusts, some of the lesions presented a framboesiform appearance.

DISCUSSION.

DR. TRIMBLE agreed with the cutaneous diagnosis, but said that the case did not suggest the ordinary epilepsy, as according to the history it began rather late in life. Epilepsy beginning after thirty years of age, was somewhat suspicious. He suggested that a Wassermann test be made.

DR. FORDYCE and DR. WINFIELD also thought that the epilepsy coming on late in life was suggestive of syphilis.

PHILADELPHIA DERMATOLOGICAL SOCIETY.

From January, 1913, to April, 1914.

DR. JAY F. SCHAMBERG, *President*.

VERRUCOUS LICHEN PLANUS. Presented by DR. STELWAGON.

A male, aged 32 years, had the advent of the present outbreak six months ago. There were typical lesions of the usual type on the arms and the trunk. On the anterior surface of the right lower leg, there was a patch with a hypertrophic, verrucous surface. The involved area extended over one-half of the lower leg. Dime-sized and smaller areas were observed on the left leg and the anterior surface of both ankles.

CASE FOR DIAGNOSIS. Presented by DR. STELWAGON.

This little patient was presented at the last meeting and the diagnosis was thought to be either syphilis or tuberculosis of the skin. A long fistulous tract led from a boil-like lesion in the anal region to the knee. Calcareous material was found in this channel. The various tuberculin and Wassermann tests were negative. Staphylococci were found in the pus from this channel. No other organisms were discovered. The biopsy showed only inflammatory tissue.

CHEILITIS EXFOLIATIVA. Presented by DR. STELWAGON.

A woman, aged 25, exhibited a typical example of this affection, of two years' duration. Both lips were thickened and exfoliated freely and frequently. There was some resemblance to a cheilitis glandularis. Dr. Stelwagon had applied tincture of green soap, followed by diachylon ointment.

ERYTHEMA PERSTANS. Presented by DR. STELWAGON.

The case was exhibited at the last meeting and since then had remained practically stationary. The present outbreak had lasted for about one year. A former attack had practically the same duration.

MULTIPLE FIBROMATA. Presented by DR. PFAHLER.

The case was exhibited at a former meeting of the Society and was presented to show the effect of desiccation treatment. Thirty-six growths had been destroyed at one sitting and the result was excellent.

EPITHELIOMA AND SYPHILIS. Presented by DR. PFAHLER.

The patient was exhibited at the Philadelphia meeting of the American Dermatological Association. The epithelioma of the tongue had been destroyed by the high frequency spark and the syphilitic lesion had healed under appropriate antisyphilitic treatment.

CASE FOR DIAGNOSIS. Presented by DRs. STELWAGON and BROWN.

A female, aged 21, observed the commencement of the outbreak two years ago. A double palm-sized patch, which was deep-seated and accompanied by scarring was observed below the left knee. Another patch, one-half the size of the former, was noticed on the right upper thigh. The patches were of a dark red color, sluggish in appearance, and the scarring had no typical contour. The question of tertiary syphilis and erythema induratum was discussed.

NÆVUS PILOSUS. Presented by DR. FINCK.

The patient, a female aged 15 years, presented a quarter-dollar-sized area on the left cheek. The lesion was of a dark-brown color and contained numerous long hairs. Fully one-half of the involved area consisted of a whitish scar; the latter having been produced by an acid applied some years previously.

Dr. Finck presented also a child, aged 2 years, with a large hairy nævus involving the left cheek, the nose and a considerable portion of the right cheek. A portion of the nævus area consisted of scar tissue where treatment had formerly been applied.

DERMATITIS FACTITIA. Presented by DR. SMITH.

A woman, aged 43 years, presented an outbreak which had appeared intermittently for the last six years. Typical linear marks were observed upon the back and the legs. Dr. Stelwagon exhibited the same patient before the Society about a year ago.

DERMATITIS HERPETIFORMIS. Presented by DR. SCHAMBERG.

A woman, aged 41, exhibited an outbreak which originally started four years ago. Lesions were present on the dorsum of the hands, the face, the buttocks, the trunk and the buccal mucous membranes. The outbreak was mostly of the papular type, although a few vesico-bullous lesions were observed. Grouping was a marked characteristic. A considerable portion of the eruption simulated erythema multiforme. The patient complained of slight itching. Daily injections of one-fifteenth to one-eighth of a grain of the arsenate of soda had been given.

LUPUS ERYTHEMATOSUS. Presented by DR. HARTZELL.

A woman, aged 25 years, had had the outbreak for some months. It was observed upon the face and the neck. The lesions were of an extremely superficial type resembling closely an erythemato-squamous eczema. Itching was complained of. There were about a dozen patches present, from dime to silver dollar in size; some of the areas had an ill-defined circumference.

ERYTHEMA AB IGNE. Presented by DR. DAVIS.

A woman, aged 35 years, had had the cutaneous lesions for some months. Reddish and reddish-brown rings were observed on both lower extremities, particularly below the knees. The patient, who did all of her own work, including the cooking, was exposed to the heat of the range a considerable portion of the time.

MULTIPLE IDIOPATHIC HEMORRHAGIC SARCOMA (KAPOSI). Presented by DR. SCHAMBERG.

A male of 60 years noticed the advent of the lesions five months ago. The patient showed a typical outbreak of this condition, involving most of the right foot, particularly the second toe. The lesions were of a reddish-brown and bluish-black color, mostly non-elevated, from a split-pea to dime in size. Dr. Hartzell referred to the case of this disease he had presented before the International Dermatological Association, held in New York City.

CASE FOR DIAGNOSIS. Presented by DR. SCHAMBERG.

A male, aged 47 years, presented an outbreak which had started fifteen months previously. The eruption was fairly generalized and presented lesions resembling those seen in erythema multiforme. There were erythematous plaques, wheal-like lesions, oedematous areas, and in certain regions, prominence of the follicles. Marked dermatographism was present. The Wassermann test was negative. Ocular examinations pointed toward the diagnosis of cerebral syphilis. Argyle-Robertson pupil was present. Loss of sexual power was noted with the advent of the disease.

TUBERCULOSIS OF THE SKIN. Presented by DR. SCHAMBERG.

The cutaneous outbreak, according to the patient, developed at seven years of age and grew slowly. Hip disease was diagnosed at the age of five years. Eight years after the lesion on the face appeared and had reached the size of the palm, it was excised. Six months ago the disease recurred in the scar. The lesions presented were typical of lupus vulgaris. The patient was eighteen years of age.

CASE FOR DIAGNOSIS. Presented by DR. FINCK.

A male, aged 24 years, presented a somewhat generalized outbreak of four months' duration. The lesions were mostly split-pea sized and smaller papules of a yellowish-white or pinkish-red color, some with a central depression. Most of the outbreak was observed on the extremities, particularly on the backs of the hands, the dorsum of the feet and in the neighborhood of the knees and the elbows. The Wassermann test was negative. The case was probably an atypical form of papulo-necrotic tubercule.

LUPUS ERYTHEMATOSUS OF AN UNUSUAL TYPE. Presented by DR. STELWAGON.

The patient, a woman aged 39, developed the outbreak nine years ago. The nose, both cheeks, and the right side of the forehead were attacked by dime-sized, scarred lesions. There was also a palm-sized patch on the right upper arm, just above the elbow. The patch on the forearm and the forehead resembled markedly lupus vulgaris. It was remarked that this was the type of erythematous lupus in which the French had reported the finding of the tubercle bacillus.

VEGETATING EPITHELIOMA. Presented by DR. PFAHLER.

This case, a male aged 42 years, was exhibited at a previous meeting with a vegetating growth of the right side of the mouth. Fulguration was carried out on two separate occasions and about sixty X-ray exposures were given. The X-ray treatments had mostly been given externally, the cheek acting as a filter for the rays. The case had been treated with marked improvement during the last four months.

CASE FOR DIAGNOSIS. Presented by DR. STELWAGON.

A male, aged 27 years, presented a quarter-dollar-sized lesion of the left cheek, of six months' duration. The patch had an atrophic centre and a raised, red, somewhat nodular border. It resembled markedly lupus erythematosus. There had, however, been marked improvement from the taking of potassium iodide, for one week. Dr. Stelwagon was therefore inclined to the diagnosis of either tertiary syphilis or deep-seated ringworm.

LUPUS VULGARIS. Presented by DR. SCHAMBERG.

The patient was exhibited at the last meeting of the Society. The patch on the right cheek had been treated with a zinc chloride paste, seventy-five per cent. in strength. This application had caused a considerable amount of destruction of the diseased area.

URTICARIA PIGMENTOSA. Presented by DR. STELWAGON.

A male, aged 26, had had the condition for the last three years. The eruption consisted of pea-sized and smaller, reddish papules, chiefly on the upper part of the back, across the deltoids, and extended as far down as the belt line. The extremities and the face were almost free. Wheals were easily excited and the lesions became raspberry-red on friction. Itching was a prominent symptom. The patient also had an old acne of the face.

DR. HARTZELL remarked that it resembled the condition described by Tilbury Fox as xanthelasmaidea.

DR. DAVIS mentioned that he had recently had a nodular case of this affection.

LUPUS ERYTHEMATOSUS TREATED WITH TRICHLORACETIC ACID.
Presented by DR. DAVIS.

A patient of 35 was presented with this affection, which had lasted for nine years. The patches had been very much improved by the application of this acid, to the exclusion of all other treatment.

CASE FOR DIAGNOSIS. Presented by DR. STELWAGON.

A male, aged 30, had had the outbreak for the last three months. The patient presented a very superficial, practically non-elevated, pinkish-red eruption, with an almost total absence of scales. The lesions were dime-sized and smaller and were accompanied by slight itching. Those present considered that it probably should be classed as érythrodermie pityriasique 'en plaques disséminées.

CASE FOR DIAGNOSIS. Presented by DR. STELWAGON.

A male, aged 60, presented an outbreak of sixteen years' duration, according to the history. Dime and smaller sized lesions, warty and fissured, were located on

the palms and the palmar aspect of the fingers and the flexure surface of the wrists. There was also a hazelnut-sized area on the dorsal surface of the left hand: It was thought that the lesions were probably late manifestations of syphilis, although suggesting a keratosis.

LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by Dr. HARTZELL.

This interesting condition was presented by a man, aged 49, and has been present for four and one-half years. The lesions were located on the left upper thigh. The patient gave the history that some one had suggested to open one of the vesicles, which resulted in oozing for twenty-four hours. The patient stood on his feet the greater part of the time. X-ray treatment had been instituted.

PSORIASIS TREATED DIETETICALLY. Presented by Dr. SCHAMBERG.

Two cases of this affection were presented, which, according to Dr. Schamberg, had been much improved by giving a lessened amount of nitrogenous food. The first patient, according to the history, developed psoriasis while taking arsenic for chorea. There was a considerable amount of pigmentation of the trunk where former lesions had involuted. This pigmentation was thought largely due to the arsenic that had been taken. The second case had entirely cleared up, excepting a linear lesion several inches in length.

CASE FOR DIAGNOSIS. Presented by Drs. STELWAGON and GASKILL.

A male, 18 years old, presented an outbreak which had been present for four months. There was a purplish-brown eruption on both cheeks and ears, which was sharply margined and elevated. Apparently the condition started with enteritis. Organic disease of the heart was also present.

Dr. HARTZELL suggested teleangiectatic lupus.

Dr. STELWAGON believed that it should be classed under erythema perstans.

KERATOSIS PALMARIS ET PLANTARIS. Presented by Dr. DAVIS.

The patient, a boy, was exhibited before the American Dermatological Association and at the local Society and was shown because of the marked improvement. The following preparations had been employed: resorcin, grains 12; salicylic acid, grains 15; lead plaster, drams 6; and petrolatum, drams 2. Later $\frac{1}{2}$ dram of resorcin and 20 grains of salicylic acid were used to the ounce of Lassar's paste. Starch poultices were used occasionally for their softening effect.

LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by Drs. STELWAGON and GASKILL.

A male, aged 10, had had the condition for six years, with very little change in its size. The typical patch had the dimensions of a half-dollar and was located at the bend of the left elbow.

CASE FOR DIAGNOSIS. Presented by Dr. SCHAMBERG.

A male, aged 35 years, was observed with an outbreak of seven weeks' duration. Four infiltrated, flat, dime-shaped lesions were present on the face and the neck and a palm-sized area on the dorsum of the left hand. The enlargement of the last few lesions which appeared were slightly suggestive of an iodide outbreak, the patient having taken ten-grain doses of potassium iodide for several

weeks before coming under Dr. Schamberg's care. The sero-purulent material from one of the lesions was examined, but only staphylococci and streptococci were found. Blastomycosis and sporotrichosis were suggested.

CASE FOR DIAGNOSIS. Presented by Dr. STELWAGON.

The patient exhibited was a female, aged 25 years, who had an annular lesion on the right side of the forehead. The patch was one-quarter-dollar in size, absolutely dry and without a scale, and had been present for four years. The vascular type of erythematous lupus was suggested as the probable diagnosis.

CONGESTION OF THE SKIN. Presented by Dr. SCHAMBERG.

A woman of 20 years was exhibited with a pathological flushing over the back and face, which sometimes extended generally over the cutaneous surface. The phenomenon had been present for a considerable number of years and could be readily excited by entering a warm room, after exercise, etc.

CASE FOR DIAGNOSIS. Presented by Dr. SCHAMBERG.

The patient, a girl of 16 years, had had a marked hyperidrosis of the hands and feet for a considerable period. During the last two years she had developed an acro-asphyxia of both hands and feet. The ears were not affected and the heart was apparently normal. The condition was becoming progressively worse. The hands were not as red in summer as during the cold weather.

ECZEMA OF THE NIPPLE AND SURROUNDING PARTS. Presented by Dr. SCHAMBERG.

The patient was a girl of 16 and had had the condition for the last two years. Paget's disease was discussed in relationship to cases somewhat analogous to the one shown.

MULTIPLE FIBROMATA. Presented by Dr. PFAHLER.

This case, which had been previously exhibited, was presented to show the result of treatment with the high-frequency spark. The result had been rather disappointing.

COLLOID MILIUM. Presented by Dr. HARTZELL.

A man, aged 43 years, presented this extremely rare condition. Four years previously the lesion started upon the cheeks and the nose, and at the time of presentation fully one-half of these areas were attacked. The lesions were of an orange color and the size of a small pinhead. Section were shown which presented the picture of colloid degeneration.

SCLERODERMA. Presented by Dr. STELWAGON.

A woman, aged 45 years, had had several typical patches of scleroderma. The patient had been under Dr. Stelwagon's care for some years. The case was shown particularly because the central portion of one of the hardened patches on the abdomen had broken down and was apparently undergoing a malignant change. This patch had previously been X-rayed. It was discussed whether the Roentgen exposures had been causal of the degeneration.

CASE FOR DIAGNOSIS. Presented by Dr. SMITH.

A boy of 5 years developed, ten months ago, the lesion upon the right cheek. There was observed a dime-sized lesion on the centre of the right cheek, with a central scar and raised circumference made up of pinhead-sized, reddish-brown nodules. An analogous lesion, only smaller, was present on the left cheek. Dr. Smith was under the impression that the case was one of Aleppo boil. Others present tended strongly toward the diagnosis of lupus vulgaris.

CASE FOR DIAGNOSIS. Presented by Dr. KNOWLES.

A male, aged 55, presented a curious hypertrophic condition of the nose and the adjacent cheeks. There seemed to be a fibrous thickening of the skin, arranged in the form of tumors, one-quarter to one inch in length and about one-half as wide and raised fully one-quarter inch above the surrounding skin surface. The condition was most marked in the neighborhood of the alæ of the nose and the adjoining portions of the cheeks. Excepting for the involvement of the skin of the cheeks, the condition bore a rough resemblance to rhinophyma.

CASE FOR DIAGNOSIS. Presented by Dr. MAURICE BROWN.

A male, aged 20 years, presented a somewhat generalized outbreak of but ten days' duration, and accompanied by a coated tongue and a week's elevation of one or two degrees in temperature. The outbreak was most marked on the hands, fingers, arms, legs and feet. There was also a rather sparse eruption on the chin, ears and trunk. The lesions consisted of follicular papules, acuminate and flat, of a bright red to a dark red color, and a few were hæmorrhagic. Itching was a marked feature. Acute lichen was suggested as the possible diagnosis.

LUPUS VULGARIS. Presented by Dr. SCHAMBERG.

A negro boy, aged 7, was exhibited with lesions on the chin and the lower portion of each cheek, which had started four years ago. The patches were typical, with a scarred central portion and a raised circumference. The Wassermann test was negative.

CASES TREATED BY FULGURATION. Presented by Drs. PFAHLER and ZULICK.

Several cases of port-wine mark, lupus vulgaris, and epitheliomata were exhibited, all of which had responded favorably to this method of treatment.

ATROPHIA CUTIS. Presented by Dr. STELWAGON.

A woman, aged 46, presented an atrophic condition of the skin, of one year's duration. Both knees and lower legs exhibited an atrophy of the skin with a dark brown pigmentation of the affected areas. The atrophy was sharply margined at the upper border and faded into the sound skin at the lower portion. The right leg showed the greater involvement. The reflexes were exaggerated.

ERYTHEMA MULTIFORME PERSTANS. Presented by Dr. STELWAGON.

A woman, aged 38 years, presented a very curious outbreak of four months' duration. The outbreak was observed upon the arms, the legs and the trunk. The eruption began as small rings, with elevated borders, which enlarged by the spread of the circumference or by confluence with other lesions, reaching palm or larger in size. Involution occurred by the breaking up of the circumference and pigmentation remained after the disappearance of the active lesion.

EXTRAGENITAL CHANCRE. Presented by Dr. STELWAGON.

The initial lesion was observed on the right cheek. A generalized eruption was present, accompanied by numerous mucous patches in the genital and anal regions. The various concomitant signs of the disease were also present.

LICHEN PLANUS. Presented by Dr. SMITH.

An extensive example of this disease was presented in a girl of 15 years, of a few months' duration. The outbreak was observed upon the knees, ankles, hands, forearms, and the anterior and posterior surface of the neck. The lesions were unusually pinkish in color and a considerable number were acuminate, rather than flat.

CASES TREATED WITH ZINC CHLORIDE PASTE. Presented by Drs. EALER and HIRSCHLER.

Three cases were presented, two of epithelioma and one of lupus vulgaris. Marked improvement had resulted. The preparation used consisted of zinc chloride, 75 per cent., stearate of zinc, 25 per cent., and sufficient alcohol to make a paste. The application was held in contact with the lesion for from twenty-four to thirty-six hours.

A PROBABLE CASE OF GRANULOMA PYOGENICUM. Presented by Dr. STELWAGON.

The patient, a male 52 years of age, presented a split-pea-sized lesion of seven weeks' duration. The tumor was located on the mucous membrane of the lower lip and resembled a blood-tumor.

PSORIASIS TREATED DIETETICALLY. Presented by Dr. SCHAMBERG.

A girl, aged 20 years, exhibited a typical psoriasis of four months' duration. Her father had also had psoriasis. The case, according to Dr. Schamberg, has been much improved by giving a diet low in nitrogen.

ANNULAR LICHEN PLANUS. Presented by Dr. STELWAGON.

A female, aged 27 years, presented an extensive eruption of this affection, of one month's duration. Some of the lesions were quite large, thumb-nail in size, and a considerable number were of an annular configuration.

MULTIPLE AREAS OF TUBERCULOSIS IN A NEGRESS. Presented by Dr. HARTZELL.

A negro girl, aged 12 years, presented eight areas of disease of a year's duration. One patch involved one-half of the right cheek, extending to the inner canthus of the eye and had caused a partial blockage of the tear-duct. Silver-dollar-sized areas were also present on both forearms, just above the wrists and on the thighs. Most of the patches were in the form of uniformly rounded areas with central scarring. Some of the lesions were strongly suggestive of late syphilitic manifestations. The patient reacted strongly to tuberculin and the Wassermann reaction was negative. Several of the patches had responded splendidly to the X-rays.

MYCOSIS FUNGOIDES. Presented by Dr. HARTZELL.

A male of 45 had had, for five years, a generalized eczema-like eruption. The entire cutaneous surface was of a dull red color, the skin was thickened, in places somewhat scaly, and the itching was intolerable. The finger and toe nails had been shed several times since the onset of the attack. Recently the patient

had developed a few hazel-nut and smaller nodules upon the upper back and chest. There was a slight leucocytosis and a marked lymphocytosis, eighty-five per cent. of small lymphocytes being present. There was a generalized lymphatic enlargement, particularly in the inguinal region, somewhat suggestive of Hodgkin's disease.

CASE FOR DIAGNOSIS. Presented by DR. STELWAGON.

A girl, aged 18, presented a curious eruption, resembling angioma serpiginosum, of two years' duration. A congestive eruption, mostly in the form of rings, was observed upon the dorsum of the hands, the forearms, the lower legs, the ankles, the dorsum of the feet, the nose and the neck. The hands and the feet were noticeably cold and there was a marked hyperidrosis. The eruption gave the appearance of mottling and was more marked when the extremities were held in a dependent position. Burning and itching were mildly present but there were no painful sensations in the hands or feet. The patient suffered with frequent and severe, probably congestive, headaches.

LUPUS ERYTHEMATOSUS. Presented by DR. SCHAMBERG.

A typical instance of this affection was exhibited, in the person of a female, aged 32 years. The attack started about a year ago and the patches had practically remained stationary during the last few months. There was a marked tendency to an annular formation in the patches. The cheeks, the nose, the neck and the forehead showed the eruption.

SEVERE ACNE IN A PARAFFIN WORKER. Presented by DR. SCHAMBERG.

A male, aged 30 years, exhibited hundreds of milia, comedones, furuncles and acne lesions on the legs, arms, chest, thighs, buttocks and back. The patient's face was almost free of eruption. The eruption had started but eight weeks previously, after working in paraffin for but three months. Evidently the clothing had become impregnated with the preparation and the rubbing of the substance into the skin had produced the outbreak.

AN UNUSUAL CASE OF SEBORRHOEIC DERMATITIS. Presented by DR. SCHAMBERG.

A curious eruption was exhibited in a male, aged 16, of four years' duration, which partook of the characteristics of a lichen planus and parapsoriasis. The outbreak was observed on the lower portion of the trunk, the buttocks and in the groins. Although some of the lesions were small, the majority were from a dime to one-quarter-dollar in size. They were of a pinkish-red color and some were slightly scaly.

PAPULO-NECROTIC TUBERCULIDE. Presented by DR. KNOWLES.

A girl, 13 years old, born in Russia, exhibited approximately one hundred lesions on the face, hands, elbows and the knees. The type of lesion was a small pinhead to split-pea-sized, pinkish to flesh-colored, hard papule, which became necrotic in the centre and dried up, leaving a pit-like scar. Numerous scars were present where lesions had previously been located. Some of the lesions, particularly on the dorsum of the hands, had run together in a linear arrangement. Itching was present to a slight degree.

TWO CASES OF ICHTHYOSIS IN THE SAME FAMILY. Presented by DR. FINCK.

A brother and sister, aged respectively 6 and 8 years, exhibited a mild degree of ichthyosis. There was a superimposed eczema present in each case.

CASE FOR DIAGNOSIS. Presented by DR. KNOWLES.

A woman of 50 years presented an œdematous swelling of both upper and lower eyelids of some years' duration. The eyes were partially closed because of the tumefaction. The eyelids reached the size seen on presentation within a few weeks after the onset of the condition and had since remained almost stationary. The skin in the affected areas was of a normal color. There were no other abnormalities present. The condition was probably due to some lymphatic obstruction. The patient gave a history of having had several attacks resembling erysipelas. Various applications, including mild X-ray treatment, had been tried without the slightest benefit.

PARAPSORIASIS? Presented by DR. WALKER.

A child of 8 years exhibited on the trunk an eruption of an erythematous-squamous type. The outbreak was extremely superficial and the lesions were arranged in patches from a split-pea to one-quarter-dollar in size. Most of the patches were slightly scaly and varied in color from a pinkish to a fawn shade. Some of the outbreak resembled somewhat an atypical variety of urticaria pigmentosa. Itching was present to a mild degree. The eruption had been present for some years, and since its first development had apparently remained almost stationary. The various applications which had been tried during the last few months had proved of no benefit. Those present considered that it should be classed with the erythrodermias of the French school.

MYCOSIS FUNGOIDES. Presented by DR. HARTZELL.

The patient, a woman of 55 years, presented a rather limited eruption of six months' duration. There was a sparse eczema-like outbreak scattered over the trunk, accompanied by rather severe itching. The most interesting portion of the outbreak, however, consisted of a circinate, erythematous patch on the upper back and shoulder, with a central ulceration. Those who originally observed the case were of the opinion that the eruption was probably a superficial serpiginous syphiloderm, which had undergone an epitheliomatous degeneration. Dr. Hartzell made a biopsy, which proved that the correct diagnosis was in reality mycosis fungoides.

PAPULO-NECROTIC TUBERCULIDE. Presented by DRs. STELWAGON and STRAUSS.

A boy, 15 years of age, of Russian Jewish parentage, presented a rather extensive outbreak on the ears, the extensor surface of the arms, the hands and the fingers. The original attack started a year ago. There was a respite during last summer, but there had been a fresh crop of lesions starting with the advent of cold weather. The lesions were typical papules, with necrotic centres. Numerous pit-like scars were present where lesions had formerly been located.

ERYTHEMATOUS LUPUS ATTACKING THE MUCOUS MEMBRANES.
Presented by DRs. STELWAGON and STRAUSS.

The outbreak was observed in a male of 38 years, and originally started ten months ago. A quarter-dollar-sized patch was noticed on the left ala of the nose, which extended into the nares. Smaller areas were also present on the tip of the nose and on the right ear. The mucous membrane of the lower lip was attacked by a typical patch.

LUPUS ERYTHEMATOSUS AND ARSENICAL KERATOSES. Presented by DR. SCHAMBERG.

A woman, aged 41, had had unusually thick patches of erythematous lupus on both cheeks during the last five years. Her attending physician suggested the internal administration of arsenic. She was given, during a comparatively short period, 300 grains of arsenious acid. One year ago she began to develop wart-like growths on the soles of the feet and the palms of the hands. Shortly after the appearance of these keratoses she came under Dr. Schamberg's care. Typical patches of erythematous lupus were present on both cheeks and characteristic and marked keratotic elevations were present on the palmar aspect of the hands and the plantar surface of the feet.

The regular monthly meeting was held on Monday, February 16th, 1914, at the College of Physicians. DR. JAY F. SCHAMBERG, *President*.

PAPULO-NECROTIC TUBERCULIDE. Presented by DR. STELWAGON.

The patient, a male, had had the condition for seven years. The outbreak was observed upon the forehead, the neck, the trunk, the arms and a few scattered lesions on the legs. There were papules of an indolent type present, with a tendency to central pustulation. The lesions were observed in the hairy portion of the scalp at the hair margin. There was a considerable amount of scarring; the pit-like scars resembled those following variola. There were no subjective symptoms.

NEVUS PIGMENTOSUS. Presented by DR. STELWAGON.

The congenital lesion was observed in a male of 35 years. The possibility of malignant change in the deeply pigmented lesion was discussed.

LUPUS ERYTHEMATOSUS. Presented by DR. SCHAMBERG.

The patient, a female aged 29, observed the start of the present outbreak ten years ago. The patches were observed on the scalp, either side of the sagittal suture and also near the hairy border. The areas were from a half-dollar to the palm of the hand in size, cicatricial and depressed. There had never been any signs of a folliculitis. Folliculitis decalvans had to be differentiated from erythematous lupus in the present instance.

CASE FOR DIAGNOSIS. Presented by DR. DENGLER.

A male, aged 3 years, exhibited a goose-egg-sized, flesh-colored tumor in the inner infrascapular region. The lesion was aspirated and found to be multilocular. The diagnosis lay between a lymphangioma, possibly with a fibrous element associated, and a cyst.

TERTIARY SYPHILIS. Presented by DR. STELWAGON.

This patient was shown at the last meeting, at which time the diagnosis was thought to be an atypical case of erythematous lupus, the outbreak being observed about the upper lip and the right ear. The lesions had entirely cleared up under the internal administration of potassium iodide, thirty grains, three times daily.

NODULAR SYPHILODERM. Presented by DR. STELWAGON.

A negro male, aged 30 years, presented a lesion having a duration of three weeks. The outbreak was observed on the right temporal region; the involved area had a pustular surface and was the size of a silver dollar.

CHRONIC EXFOLIATIVE CHEILITIS. Presented by DR. DENGLER.

A male, aged 25, exhibited a thickened, scaly, exfoliative condition of both lips, vermilion surface, of three years' duration.

DERMATITIS HERPETIFORMIS. Presented by DR. STELWAGON.

A woman, aged 48, presented a chronic, recurrent outbreak of three years' duration. The eruption was of a predominate erythemato-squamous type, with interspersed vesicles and bullæ. The eruption was fairly generalized. There was a marked grouping tendency and the itching was intense. The outbreak was eczematoid on the face. Some of the bullæ had been hen's-egg in size.

XANTHOMA TUBEROSUM MULTIPLEX. Presented by DR. SCHAMBERG.

The outbreak, of three years' duration, was observed in a male of 30, a machinist by trade. The lesions were pea in size, orange-yellow in color, and were observed on the hands, the fingers, knees and elbows. There were no jaundice, hepatic symptoms or glycosuria.

MULTIPLE EPITHELIOMATA. Presented by DRs. STELWAGON and STRAUSS.

The patient, a laborer, aged 48, first developed the tumors eleven years previously. The growths developed upon patches of keratosis senilis on the face and the dorsum of the hands.

BENIGN CYSTIC EPITHELIOMA. Presented by DR. SCHAMBERG.

The outbreak developed at the early age of twelve and had lasted ten years. The patient, a woman, exhibited papulo-nodular, pin-point to lentil-sized lesions on the neck, of a dull-red to yellowish-red color. The growths were convex or flat, rounded and oval in appearance, fully four hundred being present. Microscopical examination had proved the diagnosis.

PSORIASIS TREATED BY COLONIC IRRIGATIONS. Presented by DR. KATZENSTEIN.

The patient, a male aged 54 years, developed the disease three years previously; the outbreak being much more severe each winter. Colonic irrigations first caused a marked improvement. The second severe outbreak was removed by chrysarobin ointment. The skin during the third relapse had become so sensitive that every application used had caused a dermatitis.

MYCOSIS FUNGOIDES. Presented by DR. SCHAMBERG.

The patient, a male of 33, developed the disease eleven years ago; two years ago, he was presented to the Society by Dr. Hartzell. At the time of his first presentation he was in the prefungoid stage of the affection. The patient, at the time of presentation, had large fungating tumors on the left shoulder, the abdomen, about the neck and on the back. Some of these growths had been treated by a seventy-five per cent. zinc chloride paste.

TERTIARY SYPHILIS. Presented by DR. SCHAMBERG.

The outbreak, of eight years' duration, was observed in the person of a negro male, aged 47. The lesions were present upon the tip and alæ of the nose and resembled closely verrucous tuberculosis, blastomycosis and syphilis. The luetin and von Pirquet tests were negative. The Wassermann reaction was positive.

LUPUS ERYTHEMATOSUS. Presented by DR. SCHAMBERG.

This patient was exhibited at the January meeting and had since then improved markedly. Iodoform was given internally in grain doses, three times daily, and locally a resorcin and zinc oxide lotion had been employed.

SCROFULODERMA. Presented by DRs. SCHAMBERG AND STRICKLER.

A typical case of this affection with a considerable amount of ulceration on the right side of the neck was presented. The girl was ten months of age and had had the condition for some months.

PITYRIASIS RUBRA PILARIS. Presented by DR. LUDY.

A negro male of 12 years had had the condition for some months. The typical follicular papules were observed on the sides and back of the neck and the same development was occurring on the dorsum of the fingers. The outbreak had spread considerably since the patient had been under Dr. Ludy's observation.

CASE FOR DIAGNOSIS. Presented by DR. FINCK.

A male, aged 60, presented on the dorsum of the right hand, a silver dollar sized area of two years' duration. There were numerous miliary abscesses present in the lesion, which gave it somewhat the appearance of a blastomycosis.

DR. SCHAMBERG suggested the possibility of granuloma pyogenicum.

CASES OF EPITHELIOMA TREATED BY FULGURATION. Presented by DR. PFAHLER.

Dr. Pfahler presented eight cases of epithelioma of the lip and the mouth, all but one of which were well. In only one of these was the X-ray depended upon alone. In six of the others the disease was first destroyed by electro-thermic coagulation (by use of the high frequency current) and in one the lesion of the lip was first excised, but all received active and immediate X-ray treatment. All these patients were excessive smokers at the time of the development of their disease.

Case 1. The epithelioma involved two-thirds of the lower lip. It was excised by Dr. Laplace in 1903, and the patient was treated by X-ray the next day after the operation, without any attempt to close the wound. He was still well eleven years later.

Case 2. The epithelioma was about one-half inch in diameter, and was treated by the X-ray alone, in 1907. He was still well seven years after treatment. He had diminished his smoking, but had not given it up.

Case 3. There was an epithelioma one-half inch in diameter at the left angle of the mouth, and on the central part of the lower lip. It was destroyed by electro-thermic desiccation, which was followed by X-ray treatment. He was still well two and one-half years after the discontinuation of the treatment.

Case 4. The patient had an epithelioma of progressive growth, which had started ten years previously. He had been treated intermittently during this period with the X-ray in a small town. When the patient came under Dr. Pfahler's observation, January 20th, 1913, the disease involved one-half of the upper lip, the same portion of the lower lip also, the left cheek, and extended back to the angle of the jaw, chiefly on the inner surface. The diseased area was removed by electro-thermic excision; then treated by the X-rays for nine months. A plastic operation was subsequently performed and he was apparently well at the presentation.

Case 5. There had been an epithelioma one-half inch in diameter on the left of the lower lip, involving the mucous membrane. This growth was destroyed by

electro-thermic desiccation, followed by X-ray treatment, and cure apparently had been effected.

Case 6. There was an epithelioma one-half inch in diameter on the right side of the lower lip, involving both the outer and inner surfaces of the mucous membranes. The growth was destroyed by electro-thermic desiccation, which was followed by X-ray exposures. He had been well for six months.

Case 7. The patient had had an epithelioma involving about one-fourth of the lower lip. This growth was incompletely destroyed by electro-thermic coagulation, on two different occasions. Recurrence subsequently developed, and finally the entire lip was removed by electro-thermic excision. He had been well for the last two months.

Case 8. The patient had an epithelioma involving the under surface of the tongue, the floor of the mouth, the alveolar process, the inner wall of the bone, from the bicuspid region on one side to the same area on the other, with bilateral metastatic glandular enlargement. The entire diseased area was destroyed by electro-thermic coagulation, and followed by very active X-ray treatment both inside and outside of the mouth. At the end of three months he seemed to be free from disease within the mouth and the metastatic enlargement of the glands had disappeared. At the end of four months, however, he had an indurated area under the left lower jaw, which Dr. Pfahler was hoping to control by means of the Roentgen rays.

CASE FOR DIAGNOSIS. Presented by Dr. HARTZELL.

The patient, a negro male, aged 50, had lesions of the nose and the cheeks, which had lasted for sixteen years. The condition had been almost stationary for the last few years. Papules and tubercles, scars and slight ulceration were present. The diagnosis seemed to lie between a tuberculosis and tertiary syphilis. The Wassermann test was mildly positive. An injection of salvarsan was without effect.

MYCOSIS FUNGOIDES. Presented by Dr. HIRSCHLER.

Some of the largest fungating lesions in this case, which was presented at the last meeting, had been treated with zinc chloride. The preparation consisted of seventy-five per cent. of the chloride of zinc and the remainder of the stearate of zinc, with a small quantity of alcohol. The application was bound to the affected area for twenty-four hours.

Dr. HARTZELL stated that he had recently been giving benzol, five grains, three times daily, to a case of this character, with some improvement.

LUPUS ERYTHEMATOSUS. Presented by Drs. STELWAGON AND BROWN.

The patient, a female, 23 years of age, was exhibited with a very superficial, almost eczematous type of outbreak, of a month's duration. The cheeks, the nose, the neck and the scalp showed the outbreak.

CASE FOR DIAGNOSIS. Presented by Dr. STELWAGON.

The patient, a woman of 55 years, showed an eruption of four months' duration upon the cheeks, the nose, the dorsum of the hands, the fingers and the scalp. Although the lesions, for the most part, were very superficial and resembled somewhat an eczema, the case was probably one of erythematous lupus.

KERATOSIS SENILIS AND EPITHELIOMA. Presented by Dr. STELWAGON.

A woman of 81 had the beginning of the eruption twenty years ago. Typical lesions were found on the hands, the face and the back. The growths were rather large, of a warty appearance and some were fungating.

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KERATOSIS PALMARIS ET PLANTARIS. Presented by Drs. DAVIS AND KNOWLES.

The patient, a boy of 15, had been under observation for some years and was previously presented at the Philadelphia meeting of the American Dermatological Association. Practically all of the lesions had disappeared by the use of very strong applications of resorcin and salicylic acid.

PYOGENIC INFECTION OF THE HAND. Presented by Dr. FINCK.

The patient was exhibited at the last meeting of the Society. Marked improvement had occurred by soaking the lesions with a hot permanganate of potash solution, six per cent. in strength.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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Assisted by

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(September, 1913, cxviii, No. 1.)

Abstracted by JOHN H. STOKES, M.D.

ON THE PATHOLOGY OF THE ELASTIC TISSUE OF THE SKIN. ARZT,
p. 465.

Artzt, after a painstaking study of colloid degeneration of the elastic tissue of the skin, gives the following summary of his results.

Clinical conclusions. (1) Ivory white color changes on the skin of the face indicate changes in the elastic tissue. (2) If such color changes occur in a scar in this region, changes in the elastic tissue can be predicted almost to a certainty. (3) The scars of a variola are especially likely to undergo such changes.

Histological conclusions. (1) The changes occurring in the variola scar are those of colloid degeneration in scar tissue. (2) Similar or identical changes, differing only in degree, occur in inflammatory processes (lupus erythematosus, lupus vulgaris, acne vulgaris and in carcinomata). (3) On account of its oc-

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currence in inflammations and neoplasms, colloid degeneration of the elastic tissue can scarcely be regarded as specific for any dermatosis.

General conclusions: (1) The writer regards "colloid" as a misnomer, and only uses the term to prevent misunderstanding. (2) He makes an exception of pseudoxanthoma elasticum in which almost no colloid degeneration occurs, and suggests the term "hamartome," as used by Albrecht, as expressive of its combined neoplastic and hyperplastic character. (3) The term "colloid milium" is regarded as inappropriate, since the degeneration is not colloid and the "milium" is not milium. (4) Atrophy of the connective tissue is held to play a principal rôle in the changes produced. (5) A variety of causes may produce this atrophy, including senescence and inflammatory processes, and these causes may later lead, not singly but usually in combination, to further changes in the elastica. (6) Colloid degeneration of the elastic tissue is really only a collective term for a group of changes common to scar formation, to neoplasms, to senile manifestations, and to inflammatory processes in the skin. (7) No scientific basis exists for speaking of "colloid" in these connections, since "colloid" is really a group of epithelial hyaline products without either constitution or microscopical reactions in common.

GENERALIZED HERPES ZOSTER IN LYMPHATIC LEUKÆMIA. F. FISCHL, p. 553.

The special feature of interest in this case was the demonstration in the Gasserian ganglion at autopsy, of leukæmic infiltrates, more marked in the ganglion of the side on which the eruption was the more extensive and severe. The difficulties in diagnosis of the skin lesions are conceded, but the occurrence of balloon and reticular degeneration in the vesicles and bullæ is taken as a strong point in confirmation of the clinical diagnosis. The autopsy findings were characteristic of lymphatic leukæmia. The spinal ganglia were not examined. The writer leaves unsettled the question whether leukæmic infiltrates acting as irritants to the Gasserian and dorsal root ganglia caused the zoster, or whether the zoster occurred independently and the leukæmic infiltrates developed secondarily at the sites of the zoster lesions.

ON THE PIGMENTED FORMS OF URTICARIA. W. KERL, p. 563.

This is a presentation of two cases in which the clinical picture of urticaria pigmentosa was at variance with the histopathological picture characteristic of that disease, and suggested rather that of a simple chronic urticaria with pigmentation. In the light of his cases, Kerl is not inclined to accept either the presence and arrangement of mast cells or the presence of pigment as diagnostic of urticaria pigmentosa, regarding the latter especially as of secondary importance. The urticaria pigmentosa of childhood (urticaria pigmentosa xanthelasmaïdea of Biach) is not to be sharply differentiated from the Jadassohn-Rona type. Kerl proposes for clinical use the terms "urticaria pigmentosa infantum," "urticaria pigmentosum adultorum," "urticaris chronica cum pigmentatione," and urticaria with secondary pigmentation.

ROSS'S BODIES IN SYPHILIS AND OTHER DISEASES. H. RESCHAD, p. 578.

The writer concludes, as a result of his examinations, that the Ross's inclusion bodies in the leucocytes have no specific or constant relation to syphilis, are not affected by anti-luetic treatment and are found in a variety of other conditions such as acute leukæmia, ulcer molle, pemphigus, dermatitis herpetiformis, ery-

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thema multiforme, and scarlet fever. The writer has seen no reason to regard the inclusion bodies as parasites or as having any relation to the spirochæta pallida.

(*Ibidem*, November, 1913, cxviii, No. 2.)

A CASE OF SCLERODERMIA. ITS RELATION TO INTERNAL SECRETION AND OBSERVATIONS ON THE ÆTIOLOGY OF THIS DISEASE. H. MOSENTHIN, p. 613.

The author reports a case of typical sclerodermatous manifestations in the skin associated with pigmentation, a marked increase in suprarenal secretion in the blood, increased blood pressure, tachycardia and tremor with moderate enlargement of the thyroid gland and lymphocytosis and eosinophilia in the blood. Phloridzin did not produce an excessive glycosuria. The patient had sustained an oöphorectomy fourteen years before. Mosenthin believes that hypophyseal derangement should be considered as well. The rather complex possibilities of interaction between the glands involved and the rôle of the chromaffinic system are discussed. The author himself believes that increased sympathetic tone forms the basis for the typical manifestations of scleroderma, this increase in tone being brought on by disturbances in one or more of the organs of internal secretion.

FURTHER EXPERIENCES WITH QUININE INFUSIONS IN PEMPHIGUS. R. LESZCZYŃSKI, p. 633.

Leszczynski reports the results of the use of intravenous injections of a solution of quinine in twelve cases of pemphigus, treated since his first report (*Archiv. f. Derm. u. Syph.*, cxiv, p. 129). His technique, given in detail in the article referred to, consists briefly in the injection of a 0.5% solution of quinine in physiological saline solution. After the first test injection he gives 1 gm. every other day in 250 cc. of saline. The dose has even been increased to 1.25 gms. and 1.50 gms., although the latter produced violent ringing in the ears and deafness. An effort was made to use it even after the lesions had cleared up, in the hope of preventing further attacks, but it is too early to look for conclusive results. Leszczynski mentions especially the remarkable effects of the drug in stimulating the growth of epithelium over denuded areas, its ability to control the appearance of the crops and diminish the size of bullous lesions, its drying effect on the exuding surfaces and the greater superficiality of the exfoliation under its influence. Subjectively, the patients experienced marked relief from pain and irritation, gained strength and showed remarkable improvement in appetite, which resulted in immediate and striking gains in weight. In mild cases all manifestations disappeared under treatment, and the course of the severe cases was made less severe for the patient, great improvement manifested and life greatly prolonged.

A CASE OF SCABIES NORWEGICA WITH A CONTRIBUTION TO THE HISTOPATHOLOGY OF THE DISEASE. R. NAGEL, p. 651.

The case occurred in a woman of 49 years, who died while under observation from cachexia terminating in pneumonia. The picture was apparently typical. The disease was of about three years' standing. Nagel's histopathological observations established the following conclusions: (1) the burrows are horizontal and confined to the stratum corneum. (2) Where the stratum corneum is thickened the parasites lie in its deepest layers. Where it is thin they may penetrate the rete malpighii even to the basal layer. (3) In both cases the introduction of the parasite into the epidermis leads to cornification of the cell layers immediately below it. This the writer interprets as a protective reaction on the part of the tissue involved.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(Apr. 28, 1914, lxi, No. 17.)

Abstracted by A. W. STILLIANS, M.D.

HEMOCHROMATOSIS DISGUISED AS ADDISON'S DISEASE. J. NAKANO, p. 919.

A man with a family history of arteriosclerosis began at the age of 57 to have goutlike pain in the legs, accompanied later by cyanotic attacks so severe that at one time gangrene was feared. About two years later he began to grow weak and lose flesh, with cardiac and liver symptoms. His skin had become dark, especially that of the hands and feet and about the nipples and genitals. This pigmentation progressed to a marked degree before his death, but the mucous membranes were never involved. Because of the absence of patellar and Achilles reflexes a Wassermann reaction was made, but this, as well as antiluetic treatment, were negative. The urine at no time contained any sugar. The muscular weakness, cachexia, anorexia, nausea and vomiting, with attacks of severe diarrhoea, and pigmentation, increasing up to his death, made the diagnosis of Addison's disease probable; but the ascites, high blood pressure and the autopsy findings of normal adrenals, and a mixed atrophy and hypertrophy of the liver with an iron-containing pigment throughout the organ, as well as the lacking pigmentation of the mucous membrane, weigh heavily against that diagnosis. Bronze diabetes is ruled out by the failure to find sugar in the urine at any time, in spite of careful search for it.

The author compares the similar case of Bittorf, and concludes that there are, besides bronze diabetes, other conditions in which severe symptoms resembling Addison's disease occur with pigmentation and cirrhosis of the liver and pancreas, but without glycosuria.

(Ibidem, May 12, 1914, lxi, No. 19.)

THE TREATMENT OF MALIGNANT TUMORS WITH TUMOR EXTRACT. LUNCKENBEIN, p. 1047.

A discussion of the method of the author in the light of the theories of Abderhalden. Experiments of the author have shown that the tumor extracts used in his treatment do not themselves contain ferments capable of digesting carcinoma tissue, but that these ferments appear in the patient's blood soon after the injection of the extract. The good effects of the intravenous injection are seen after very small doses in some cases, and remarkable improvement occurred in many inoperable, apparently hopeless carcinomas of the stomach, breast, intestine, uterus and œsophagus, and in several cases of sarcoma. He makes no claim of cure in these cases and acknowledges that the rapid improvement observed at the beginning of treatment did not always continue, but that the support of other means of increasing the patient's resistance were needed.

The method of treatment is difficult and not without danger. He believes that it is not necessary to have an extract always exactly corresponding to the tumor to be treated. His good results in various kinds of carcinoma and sarcoma have all been obtained with extracts of mammary carcinoma. He has never had any sign of anaphylaxis, though the intervals between injections have sometimes been long. His results on very unfavorable cases have been distinctly encouraging, but he feels that the treatment should be kept up for a long time to insure lasting results.

(*Ibidem*, May 19, 1914, lxi, No. 20.)

SALVARSANIZED SERUM. A. STUEHMER, p. 1101.

The sera of rabbits which had been injected in various ways with salvarsan or neosalvarsan were tested for their effect in delaying the onset of trypanosomiasis in mice. The results were practically the same for the intravenous and intramuscular injections, but the oily suspension of salvarsan showed practically no effect on the serum. Salvarsanized serum which was heated to 56° C. for 40 minutes was by far the most valuable, such serum, three days after the injection, preventing the infection of mice absolutely. Unheated, the salvarsanized and neosalvarsanized sera were about equal, the serum removed within the first 24 hours after the injection, protecting the mouse absolutely.

The author concludes that the oily suspension of salvarsan acts only as a very small dose, most of it being walled off and kept from being absorbed. Animal experimentation should be employed to determine the most effective way to use salvarsan in each pathological condition. Salvarsan is a drug which more than any other lends itself to special methods of administration.

THE ENZYTOL TREATMENT OF MALIGNANT NEW GROWTHS. RAPP, p. 1112.

The technique of the injections of the boric salt of cholin (enzytol) is given in detail. After trying various methods, the intravenous injection of 4 to 5 cc. of the 10% solution has been found the best average dose, a series consisting of such a dose every day for 15 to 20 days. Larger quantities, if injected slowly, are well borne, and the thromboses seen in a few cases after these larger injections were found to be caused by the traumatic damage to the wall of the vein, by the needle. Even with large injections made up with ordinary normal salt solution, no reactions followed, a strong argument against the "water fault" theory of Ehrlich in regard to salvarsan.

No report on treatment with enzytol alone can be made, as all the cases received radiotherapy with the injections. That the injections increase the susceptibility to radiotherapy is proved by the report of Ritter and Allman, who found that the erythema dose after enzytol to be only a little more than half the ordinary erythema dose, and by the experience of Rapp himself, who has seen erythema and even Roentgen ulcers from a dosage certainly below the erythema dose. He argues that if enzytol can cause such an increase of sensitiveness in the skin, whose blood content is not at all great, one can reasonably look for a much greater proportional increase of sensitiveness in the vascular tumors of internal organs.

Of their very unfavorable material, mostly inoperable carcinoma and sarcoma, about 20% were distinctly improved.

CONCERNING A NEW SKIN REACTION IN PREGNANCY. P. ESCH, p. 1115.

A criticism on the report by Engelhorn and Wintz of a new skin reaction produced by vaccination with placenta extract in pregnant women. Esch recalls his work of two years ago, showing no hypersensitiveness in pregnancy to intracutaneous injections of fetal serum or placenta extracts, but a distinct reaction to the intracutaneous injection of the proteids of placental juice, precipitated by ammonium sulphate. The reaction appeared in from 8 to 16 hours after injection, increasing up to the twenty-fourth hour and then rapidly subsiding. In three cases the reaction recurred on the following day. Four non-pregnant cases had a mild reaction not to be distinguished from the very mild reaction in five pregnant women.

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The reaction consisted of a more or less intense redness, with tense swelling from bean size to the size of the palm of a small hand. Esch cannot grant that this is a specific reaction like the reaction to a foreign proteid. Fromme observed a reaction to the subcutaneous injection of ox serum in pregnant women which did not occur in the non-pregnant. Esch suggests that it may be due to a vaso-motor instability such as causes the dermatographism so often seen in the pregnant. As Engelhorn and Wintz state that their "placentin" is not fit for intracutaneous injection, he is inclined to ascribe the difference between their results and his with placenta extract to a difference in the method of production of the extract.

(*Ibidem*, May 26, 1914, lxi, No. 21.)

BACTERIOLOGICAL FINDING IN LYMPHOGRANULOMATOSIS. H. VERPLOEGH, J. K. W. KEHRER and C. J. C. VAN HOOGENUYZE, p. 1158.

This research confirms the findings of Fraenkel and Much, Bunting and Yates, Billings and Rosenow and de Nigri and Mieremet. From the glands of five cases of this disease they succeeded in every case in isolating a rod-shaped, granular staining, Gram positive bacillus which grows best on Loeffler's blood-serum agar at 37° C. The colonies are white and slimy in character. Complement binding reactions and agglutination tests with the serum of the patients were unsuccessful, and all inoculations of guinea pigs, rabbits and apes have failed. In spite of this failure to obtain such proof, the authors believe that the bacillus is the causative agent. Four cases diagnosed microscopically as sarcoma gave negative bacteriological findings. As the bacillus is not acid fast, and the inoculations of animals were uniformly negative, they conclude that tuberculosis is probably not the cause of the disease.

THE BLOOD PICTURE OF ACUTE LEUKÆMIA AS A TEMPORARY SYMPTOM. C. KLIENEBERGER, p. 1159.

The frequent reports of acute leukæmias in recent years leads the author to warn against mistaking for acute leukæmia the temporary changes in the blood picture occurring and changing rapidly in the course of certain acute infections and toxic conditions. He mentions the blood findings of acute myelogenous leukæmia in certain cases of miliary tuberculosis, the blood findings of acute lymphatic leukæmia in acute septic conditions, etc. He reports a case of secondary lues in a 23 year old girl, who received 7 inunctions and developed a marked stomatitis, diarrhœa and vomiting. After a rest of two weeks she was given several more inunctions and an injection of 0.15 mercury salicylate. About the time that this treatment had to be given up on account of the severe mercurialism, the blood showed a leukopenia and a total absence of polymorphonuclears, with a lymphocytosis of from 81 to 94%. This lasted only about a week after it was discovered and then the lymphocytes gradually lessened in number and the polymorphonuclears returned and increased until, just before death, they had reached 73.5%. Death occurred from gangrene of the lungs and no signs of leukæmia were found at post-mortem.

INTRAMUSCULAR NEOSALVARSAN INJECTIONS. H. E. KERSTEN, p. 1172.

In the practice of the author in German New Guinea, intravenous injections are feared by the negroes, and the cubital vein is often very hard to find without incising the skin, so that he depends largely on intramuscular injections of neosalvarsan. He finds that since he has used only 1.0 or 2.0 cc. of solvent for doses up to 0.9 gm., his patients complain very little of pain and the infiltration fol-

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lowing is much less than formerly. Infiltrations of long duration and abscesses have not been observed and he has used the method recently in abundant cases with constant success.

(*Ibidem*, June 2, 1914, lxi, No. 22.)

A NEW REACTION OF THE CEREBRO-SPINAL FLUID. P. BOVERI, p. 1215.

By carefully adding 1.0 cc. of a 0.1 per thousand solution of potassium permanganate to 1.0 cc. of spinal fluid in a small test tube held in a slanting position, one obtains a ring test. Normal fluid gives no intermediate color between the two liquids; but pathological fluids show a yellow line at this juncture. Within a few minutes after mixing the liquids by gently shaking the test tube, the color changes (if the spinal fluid is pathological) to a bright yellow. The rapidity with which this change appears affords a measure of the strength of the reaction. If it appears within 2 minutes it is strong, between 2 and 4 minutes medium, and between 4 and 6 minutes weak. In case the spinal fluid is normal the mixture remains violet-pink.

The author has tried the reaction in about 40 nervous cases and finds it more sensitive than the Nonne and Noguchi tests. It does not run exactly parallel to the lymphocyte count and is strongest in cases of spinal meningitis. He confesses that he cannot explain it and suggests that it may be due to some product of the dissolution of blood pigments after small hæmorrhages into the spinal fluid.

THE GOLD REACTION IN THE CEREBRO-SPINAL FLUID. M. DE CRINIS and E. FRANK, p. 1216.

The great value of the gold reaction is upheld; but the author's experience differs from that of Eicke in the character of the curve of reaction in progressive paralysis and in the fact that they obtained a positive reaction in chorea. In the interest of comparison they suggest that the reading take place after two hours, to obtain the maximum precipitation and color differences.

During treatment of paresis by the Swift and Ellis method of intradural injections of salvarsanized serum, they obtained fluctuations in the reaction and in several cases a decided reduction of the curve along with clinical improvement. Their 83 cases of parietic dementia all gave positive reactions, against 84% positive Nonne-Appelt and 72% positive Wassermann reactions. Two cases of chorea and 4 cases of multiple sclerosis were all positive. The chorea cases gave a curve of the type which Eicke claims is diagnostic for secondary lues.

SALVARSAN AND NEOSALVARSAN, ESPECIALLY THEIR AMBULATORY ADMINISTRATION. K. RUEHL, p. 1221.

The author gives three series of 3 injections of salvarsan or neosalvarsan, followed by an energetic course of mercury injections. Between these series a pause of 5 to 7 weeks is allowed. In early untreated secondary cases he precedes the salvarsan by mercury. If the Wassermann test is negative before the beginning of the third series and no symptoms of syphilis have appeared since the first treatment, he makes the third series short (one or two salvarsans and an energetic course of mercury) and watches the patient for from 12 to 18 months, making Wassermann tests at regular intervals. He has by careful selection of cases given 429 injections of salvarsan to ambulant patients without mishap. Old salvarsan he gives in a 200 cc. infusion, neosalvarsan in 50 cc. of water distilled by himself. He finds little difference in the results from the two drugs. The intramuscular injection of the oily suspension of old salvarsan he dislikes because of the pain and the weak action therapeutically. One of his cases had, a year and a half after the treatment, a painful nodule in the buttock.

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He thinks that many of the untoward effects are due to indiscretions on the part of the patients, such as over-exertion just before or right after the treatment or fasting, etc., instead of a hypersensitiveness to the drug, because the same patient can often take the next dose without the least difficulty. The salt-like or ether-like taste during the injection and slowing of the pulse he observed in the majority of cases and thinks that they have no significance whatever as to unpleasant reactions.

THE TREATMENT OF CANCER IN TERMS OF RADIOTHERAPY. F. KOENIG, p. 1224.

The author gladly credits radiotherapy with efficient help in completing the treatment of malignant tumors, with enlarging the possibilities of surgical interference, and in preventing recurrences after operation. But when the radiologists begin to rate radiotherapy above surgery, and recommend that operable cases be treated by radiotherapy in preference to surgery, he thinks they go too far. Radiotherapy has no statistics of lasting results to compare with those of surgery and until it has, the use of radiotherapy for the treatment of operable tumors is inexcusable experimenting. The efficient aid of radiotherapy necessitates, not the restricting but the widening, of the indications for operation.

OPERATION OR RADIOTHERAPY? C. MUELLER, p. 1286.

If a sufficiently large dose has been given, no fear need be felt when the tumor seems to increase in size soon after the treatment. This swelling is only a local reaction and is really a sign that the treatment has been effective. The blood changes caused by radiotherapy are only temporary. The danger of late injuries is very slight indeed. In 6 years' experience in the treatment of tumors he has never seen a case of late injury from the rays. It seems time to decide whether radiotherapy shall be given first place in the treatment of a certain class of malignant tumors. So far, the showing that radiotherapy has made has been made on cases inoperable, or recurrent, or too often, entirely hopeless. On such material surgery would make an even less favorable showing. Mueller advocates giving radiotherapy a trial on operable cases for a limited time, and then if the results are not satisfactory, operating. An intensive radiotherapy cannot do less than prevent the extension of the growth and therefore no valuable time would be lost.

The number of cases treated by the intensive method over three years ago and still well is large enough to prove that radiotherapy is less liable than operation to be followed by recurrence. The possibility of treating metastases inaccessible to surgery and of seeking out invisible foci gives it an advantage over surgery that convinces every experienced radiologist that the field of radiotherapy in the future will not be limited to inoperable cases.

TOXIC BY-EFFECTS OF EMBARIN. G. MERZBACH, p. 1231.

This preparation is a soluble salt said to contain 3% of mercury and to be wholly non-toxic. The author had used it in many cases before he found out the falsity of the latter claim. In two cases, after several injections of embarin without any unusual results, a further injection was followed by a feeling of depression and a severe urticarial eruption lasting for two weeks.

Two other cases had much more severe reactions. After a few doses well borne, they experienced sudden fever, pains in the joints, and an erythema of the whole body appeared, especially marked on the face. This condition was at first taken for an acute infection; but its recurrence on repetition of the injection of embarin led to the correct diagnosis.

(*Ibidem*, June 9, 1914, lxi, No. 23.)

THE LUTIN REACTION OF NOGUCHI. J. NANU-MUSCEL, C. ALEXANDRESCU-DERSCA and L. FRIEDMANN, p. 1271.

A very comprehensive article, consisting of a history of the attempts to obtain a specific skin reaction in syphilis, a description of the luetin reaction, a review of the literature up to the date of the present article, a tabulation of the results reported up to that time and a report of the authors' experience.

Their report on 155 cases gives 47% positive reactions in secondary syphilis, 89% in tertiary (exclusive of tabes) and 20% in tabes. Only 10 cases of tabes were tested. Their results correspond exactly, so far as the secondary cases go, with their tabulation of all reports preceding theirs; but the combined percentage for tertiary syphilis is only 78% of positives, and for tabes 47%. The combined tabulation gives also 33% positives in primary syphilis, 65% in latent cases, 71% in congenital cases and 56% in parietic dementia.

Of the 93 control cases of the authors' series, only two gave a positive reaction. One of these was a case of dyspepsia and the other a case of lympho-sarcoma. They followed the Noguchi technique except that in a number of their cases they used undiluted luetin. No rise of temperature or other unpleasant consequence was seen.

Control injections with sterile bouillon and with cholera vaccine were entirely negative.

In comparison with the Wassermann reaction, the luetin test was somewhat less frequent in the secondary cases; but in the tertiary cases, including tabes, the luetin test gave a much higher percentage of positive results, 74% against 40% for the Wassermann. In 21 cases of tertiary syphilis, the Wassermann was negative, while the luetin reaction was positive.

In two families, of 3 and 4 members respectively, whose fathers had symptoms of syphilis and whose mothers had histories of abortions, the luetin reaction was positive, although repeated Wassermann tests were all negative.

Three of their cases, an aortitis with aortic insufficiency and a positive Wassermann reaction, a case of angina pectoris with a negative Wassermann, and a case of laryngitis, were positive only on the second injection. On the other hand, 8 cases among the controls gave constantly negative reactions even after 3 and 4 injections.

So far as their experience justifies generalization, they hold a positive luetin test as diagnostic of lues, a negative as not conclusive.

ULCUS MOLLE OR PRIMARY LESION, A THERAPEUTIC CONSIDERATION. H. MUELLER, p. 1285.

The text upon which this article is based is the following quotation from Kaposi: "Typical soft chancres are only occasionally, typical hard chancres almost always accompanied by general syphilis." On the first proposition Finger is also cited as stating that a typical soft ulcer can, without changing its character in the least, result in general syphilis.

The author cites five cases (of his own) from the pre-Schaudinn period in which typical soft ulcers were the primary lesions of syphilis. According to the best practice to-day, soft ulcers, if spirochætæ are not found, are cauterized with strong carbolic acid, heal promptly, and then, if a syphilitic infection has taken place coincident with the chancroidal, the induration appears. But unfortunately many patients have escaped from observation before this.

In a suspicious case the diagnosis can sometimes be made by examining for spirochætæ the fluid obtained by puncturing the inguinal glands, or even by examination of the excised lesion by the Levaditi method. But in such cases as

those cited, where the lesion shows no characteristic of syphilis, all methods might fail until too late for an abortive treatment of the syphilis.

Neisser's recommendation, in every doubtful case to use the salvarsan abortive treatment, leads us then to use it in every case of soft ulcer. Two or three injections are enough to protect the patient, and while the author realizes that this suggestion rests on a basis not very scientific, he believes it very practical. Of course the reason for it must be explained to the patient. Mueller compares it to the treatment of an incipient case of pulmonary tuberculosis without waiting for the bacilli to appear in the sputum.

And what of the second part of Kaposi's statement in the light of present knowledge? Can a typical chancre with *spirochætæ pallidæ* demonstrable, fail to develop into generalized lues? In the Dermatological Congress at Bern, when the *spirochæta pallida* and the Wassermann reaction were new, the theory was presented that in exceptional cases the immunity caused by the toxins from the chancre might be enough to prevent generalization. At present the general view is that practically no immunity arises from the chancre. But Mueller reports a case in which a large chancre, covering nearly the whole glans penis, showed plenty of *spirochætæ* and in which the Wassermann reaction was positive by the original method and by the modification of Brendel and that of Stern. The patient was sent back to his physician for treatment; but owing to a misunderstanding received none, either local or general. In two months from this time he returned with the chancre healed, no symptoms of syphilis, not even abnormal glands, and a Wassermann negative by all methods. A second examination, 6 weeks later, gave the same findings. The author suggests that this may be an extreme example of the class of cases which are apparently cured by a single course of thirty inunctions. He closes his article with a quotation from Neisser: "We are now (since the introduction of the serum reaction and salvarsan) able to take a forward step, and without a definite diagnosis in suspicious infections in the married or engaged, begin treatment. If the infection is syphilitic the chances of an abortive cure are the greatest by this method."

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Oct. 8, 1914, xl, No. 41.)

Abstracted by CLARENCE ALLEN BAER, M.D.

CHANCRE AND PARENCHYMATOUS KERATITIS PRODUCED IN RABBITS BY PURE CULTURES OF SYPHILIS SPIROCHÆTÆ. J. SCHIERESCHIEWSKY, p. 1835.

The author made cultures of *spirochætæ* that he had secured from different sources; explained the method of preparation and the method of using same on the animals.

Conclusions are drawn that: First, pure cultures of *spirochætæ* produce syphilitic changes in the testicle and eye of the rabbit. Second, pure cultures of *spirochætæ* can be kept for many weeks at a temperature of 37° C., and subsequently at room temperature, and remain virulent and pure. Third, excision of a chancre in a rabbit was followed by a new sclerosis. The spermatozoa of this animal contained *spirochætæ pallidæ* for a long time.

(*Ibidem*, Oct. 15, 1914, xl, No. 42.)

ÆTIOLOGY AND CLINICAL DIAGNOSIS OF ACTINOMYCOSIS. E. G. DRESEL, p. 1862.

The author shows that actinomycosis of human beings, as well as of animals, is caused by an anærobic trichomycelium (*actinomyces* A. Wolff-Israel). In

human beings infection is a mixed infection of actinomycosis with an anærobic streptothrix (actinomyces Bostroem). Besides the true actinomycosis in human beings, there is a clinical picture that resembles actinomycosis in the pus of which anærobic streptothrix can be found as the cause. In the pus of these cases a small microscopic granule can be seen that is composed of knotted shreds of streptothrix without spores. In cases of true actinomycosis enlarged glands might be lacking.

To settle the question whether a given case be true actinomycosis or a streptothrix infection, ærobic and anærobic cultures should be made.

LA CLINIQUE INFANTILE.

(Dec. 1, Dec. 15, 1913, xi, Nos. 23 and 24.)

(Jan. 1, Jan. 15, Feb. 1, 1914, xii, Nos. 1, 2 and 3.)

Abstracted by HARVEY PARKER TOWLE, M.D.

PRACTICAL CONSIDERATIONS OF THE HEREDITARY SYPHILIS OF INFANTS. M. G. VARIOT.

Variot has written a long paper on hereditary syphilis, running through five numbers of the *Clinique*, in which he describes the various forms of the disease. Much that he says is merely a repetition of the usual facts, but occasionally he departs from conventional lines.

The introductory paragraphs, dealing with the history of syphilis, the pathogenesis, ætiology and the like, attract no especial attention. Those on the mode of transmission and on conceptional syphilis, contain, on the contrary, statements which will excite general challenge. For example: The works of Ed. Fournier leave no room for doubt as to the reality of sole paternal heredity. This, it is said, is proved by the fact that children are born syphilitic when only the father is syphilitic; that in such instances abortion is frequent; that anti-syphilitic treatment, administered solely to the male parent, is efficacious (in prevention?), etc. Later, on the same page, there is a statement to the effect that Colles' law can be plausibly explained on the ground that the fœtus infects the mother with a virus so extremely attenuated that such infected mothers lack the ordinary manifestations.

At first sight it is rather startling to read that a child born in health, of a syphilitic mother, is not apt to contract the disease. The next sentence, however, explains that this is but another way of stating Profeta's law. Such healthy infants, Dr. Variot says, have probably undergone a sort of vaccination, and are born of mothers who were not themselves infected until after the seventh month of pregnancy.

The author devotes several pages to the exposition of a banal eruption very frequently mistaken for a true syphilitic affection known as "Erythème lenticulaire" or "Erythème papuleux post-erosif." It must be acknowledged, he says, that the simple post-erosive papule does closely resemble the syphilitic papule. The best method of differentiation is a general examination. Not another sign of syphilis can be found. The post-erosive papule lacks the infiltration and the deep seat of the syphilitic. It differs in its evolution, passing in a few days through the successive stages of erythema, papule and vesicle. The eruption recovers promptly under the most ordinary care. Moreover, the banal eruption does not occur in earliest infancy, but is most frequent from the third to the sixth month. Its situation differs from the syphilitic eruption, electing the gluteal regions and sparing the folds of the skin.

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General adenopathy, it is said, is a sign of less importance than in adults, as the infantile glands are easily swollen by many ordinary local affections. When a micropolyadenitis is encountered, tuberculosis is at fault quite as often as syphilis.

The writer advises the physician always to begin his examination with the mouth, where the manifestations of syphilis are very common and very characteristic. On the lips the signs of the disease are fissures or erosions, or even mucous plaques. Dr. Variot disputes Diday's statement that mucous plaques are common on the buccal membranes of the syphilitic newly born. In his experience, the contrary is the fact. He also denies that the small, symmetrically distributed ulcerations of the palatine regions are invariably syphilitic, and that the "*Glossite exfoliatrice marginée*" of Fournier and Parrot belongs in the category of syphilitic affections. He considers the latter not at all specific.

Syphilitic coryza rarely occurs unassociated with buccal or cutaneous symptoms of the disease. Laryngitis is rare in hereditary syphilis. The fatal cases of spasm of the glottis alleged to be due to hereditary disease still lack proof of their syphilitic origin.

One of the most reliable signs of tardy syphilis is interstitial keratitis, which, however, is seldom found in infants under one year old. The choroiditis and the retinitis of hereditary syphilis mentioned by Trousseau are rarely seen in young infants.

The writer considers bone affections the most common and the most characteristic symptom of hereditary syphilis. They occur with the greatest frequency in the cranium and, next in order, in the diaphyses of the long bones.

The syphilitic pseudo-paralysis of the new-born he describes as the result of an osteo-chondritis, which pre-eminently attacks the epiphyses. The symptom is very precocious, often manifesting itself in the first few weeks of life. When present, its pathognomonic importance is very great.

Attention is called to the fact that the dystrophies of the first dentition have no especial relation to hereditary syphilis. It is during the second dentition that the characteristic alterations appear, the most striking of which are the so-called Hutchinsonian teeth.

The easiest and surest way of detecting syphilitic changes in the liver and spleen is by radioscropy, although it is possible to detect an augmentation of volume by palpation.

In inherited syphilis of the hæmatopoietic organs, the blood not infrequently registers a lower or higher degree of anæmia, but occasionally shows no change. Sometimes there are other alterations without anæmia. To be of importance in the diagnosis of syphilis, the symptom of anæmia must have the support of other evidence.

The value of signs of digestive disturbance is very difficult to estimate, especially in the case of artificially fed infants. It is totally uncertain how much weight ought to be given them as manifestations due to the influence of hereditary syphilis.

Of the nervous symptoms attributable to hereditary syphilis, convulsions are given the place of first importance. Cerebro-spinal lymphocytosis is an ordinary occurrence.

The traditional acceptance of the "syphilitic cry" as a significant symptom is strongly condemned on the ground that it is far from being an absolute sign.

Little's syndrome and ventricular hydrocephalus are considered highly suggestive of hereditary syphilis.

Although early hereditary syphilis does not often attack the genito-urinary tract, nevertheless sclerosis of the testicles has occasionally been seen in the first months of life. Sparse cases have been reported of syphilitic œdema of the kidneys, and even cases of syphilitic albuminuria and hæmaturia.

Following the exposition of the clinical symptoms, the diagnosis, the pathology

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and the treatment of hereditary syphilis are briefly considered in turn, but without bringing out anything new.

(*Ibidem*, Mar. 15, 1914, xii, No. 6.)

VARICELLA OF THE NEW-BORN BY MATERNAL INFECTION. LEREBOULLET and MORICAND, p. 169.

A mother exhibited the first signs of her varicella on the very day of her confinement. The infant was given the breast as regularly as if there were no contra-indications. On the fourteenth day the child presented the first symptoms of varicella. The case, the writers say, demonstrates two facts: First, that the mother's infection did not confer immunity upon the child; second, that the length of incubation in varicella is fourteen days.

(*Ibidem*, May 1, 1914, xii, No. 9.)

THE CONFUSION CONCERNING THE DISORDERS CAUSED BY OVER-AND UNDER-ALIMENTATION IN ARTIFICIAL FEEDING. ABUSE OF THE DOCTRINE OF OVER-ALIMENTATION. M. G. VARIOT.

The author reviews various, to him, unlicensed uses made of the theory of overfeeding as an ætiological factor in disease. The section of the paper which is of the greatest interest to the dermatologist is that in which Dr. Variot discusses the toxicity of the breast milk secreted by certain women and the influence which such milk exercises upon the production of eczema.

THE HÆMOLYTIC ICTERUS OF THE NEW-BORN. PIRONNEAU, p. 267.

This paper is an argument in favor of the hæmatogenous origin of the jaundice of the new-born.

(*Ibidem*, May 15, 1914, xii, No. 10.)

BUCCAL NOMA CONSECUTIVE TO VARICELLA, CURED BY LOCAL APPLICATIONS OF SALVARSAN. M. H. ESCHBACH, p. 293.

A child, aged two, had just passed through an attack of varicella without accident. Shortly after, the temperature rose several degrees. Coincidentally there appeared upon the upper lip, and at almost the same time on the lower lip, small grayish patches. Within four or five days the mucous membrane of the whole buccal cavity was covered by a grayish, firmly adherent, diphtheria-like membrane. The upper and lower lips were everted by tremendous œdematous swelling. Small necrotic ulcers, suggesting eschars from the actual cautery, were scattered over the affected mucous membranes. Grave systemic symptoms developed in parallel degree to the intensity of the local process within the mouth.

The false membrane was scrubbed vigorously with a solution of neosalvarsan in equal parts of warm water and glycerin, in concentrations of 1:15 and 1:5. A mouth wash of peroxide of hydrogen was prescribed at the same time, together with warm compresses to the throat. During the latter course of the disease local applications of a salvarsan solution, made in the same concentration as the neosalvarsan, were substituted. Both remedies seemed equally effective. Under both the symptoms of disease disappeared so rapidly that, within thirteen days, the mouth was free.

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(*Ibidem*, July 1, 1914, xii, No. 13.)

DISSEMINATED GANGRÆNE OF THE SKIN IN INFANTS. ZUBER, p. 388.

According to Dr. Zuber, the gangrænous eruptions of infancy may be either independent, primary processes or secondary manifestations of some preceding cutaneous affection.

In the primary form the hitherto healthy infant develops a precocious gangrænous process on the third or fourth day of an eruptive disease which presents every indication of an infectious origin. The onset of the gangræne is characteristically abrupt and accompanied by severe constitutional symptoms, including fever. The first, or original, eruption may be of bullæ, erythema en placard, nodules (like erythema nodosum) or of purpura-like lesions. By the second day, the exudative elements have ruptured and their sero-sanguineous contents have dried into crusts. An inflammatory zone appears about some and is soon followed by necrosis of the area enclosed. In a general way, the lesions which do not develop in this zone of inflammation do not become necrotic, but tend rather, to superficial ulceration. New crops continue to appear of which, however, only a portion undergoes necrosis. Consequently, the eruption is multiform and the gangrænous lesions exhibit all stages of evolution. The prognosis is grave, yet the end is not invariably fatal.

In the secondary form, the suggestion given by the primary form of the unbroken and rapid evolution of an uncomplicated disease is lacking. Necrosis develops *slowly* in certain scattered lesions of a recognized cutaneous affection which has already existed for some days; as, for example, happens in the familiar, so-called gangrænous varicella. Like the primary, the secondary eruption is multiform and its lesions present all degrees of variation, from intense necrosis to the ordinary manifestations of the cutaneous disease. In contra-distinction to the primary form, the secondary necrosis does not attack an apparently healthy infant who has no demonstrable, predisposing conditions. Some debilitating factor seems to be indispensable.

The pathogenesis of all forms of cutaneous gangræne in infants is still obscure. Yet, says Dr. Zuber, it cannot be disputed that the ordinary microbic agents are sufficiently capable of playing an ætiological rôle. Although, speaking broadly, a depraved physical condition undoubtedly predisposes to its development, the fact cannot be applied indiscriminately to all cases of gangræne, for not every debilitating condition exerts this necrotizing influence; for example, the cachexias.

Bacterial invasion of the lesion is an essential factor. Under favoring conditions, any banal microbe of the body surface may acquire this extraordinary power of necrosis. According to Veillon and Halle, there are also diverse species of anærobic bacteria which produce mortification of tissue by means of a specific process of fermentation.

Zuber attributes the putrid, primary gangræne to the action of banal bacteria. Of the common organisms, it is the *Staphylococcus aureus* which is most often concerned, but under what conditions it becomes transformed into a necrotizing agent, we do not understand.

PRESSE MÉDICALE.

(Mar. 28, 1914, No. 25.)

Abstracted by PAUL E. BECHET, M.D.

HEREDITARY BONE SYPHILIS. BADIN, p. 240.

Under this title Badin reports a case of this disease, in a girl six years of age. The disease had been present for four years. The child had been perfectly healthy previous to the onset of the bone lesions.

ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

(March, 1914.)

Abstracted by PAUL E. BECHET, M.D.

CYTOLOGICAL STUDIES IN REFERENCE TO THE CUTANEOUS GLAND. NICOLAS, REGAUD and FAVRE, p. 129.

This is a very complete article on the cytology of the sudoriparous and sebaceous glands. It contains nothing essentially new.

FUNGOID TUBERCULOSIS OF THE SKIN (Riehl). NANTA, p. 141.

Nanta states that only a few isolated cases of this type of cutaneous tuberculosis have been reported since the first description of the condition by Riehl in 1894. He himself reports a very interesting case, illustrative of this type of the disease, which is characterized by the rapid development of large nodules of soft consistency, which soon undergo ulceration and form deep ulcers which quickly flatten, with progressive infiltration. Areas of deep infiltration involving the subcutaneous tissues are also present. In Nanta's case, at the time of death, practically the entire head and face were involved. The nose was as large as an apple. The auricles of the ears were almost entirely eroded, the orifice of the external auditory canal could hardly be seen in the midst of the ulcerations. Large ulcers from one to two millimeters in depth, covered most of the head. The hair had almost disappeared. The ulcers were filled with pus and necrotic debris. The eyelids were so œdematous that the patient was unable to open them. Large areas of ulceration were also present on the face.

(*Ibidem*, April, 1914.)

IS A POSITIVE WASSERMANN OF ABSOLUTE VALUE? (39% OF POSITIVE REACTIONS IN NON-SYPHILITICS.) J. NICHOLAS and J. GATÉ, p. 193.

Nicholas and Gaté question the absolute value of a positive Wassermann. Their plan of experimentation consisted of making two Wassermann tests, at a fifteen day interval, in 103 miscellaneous dermatological cases, and subsequently to compare the serum results with the clinical diagnosis. Among the 103 patients, 40 were syphilitic. The Wassermann reaction was positive in 60% of the primary cases, 90% of the secondary, 80% of the tertiary, and 36% of the quaternary period (parasyphilis). As a result of treatment, the second Wassermann became negative in 22% of the cases. In 3 cases, treatment caused a previous negative reaction to become positive. In 63 cases, clinically non-syphilitic, the reaction was positive in 24, or 39%. While these subjects were absolutely free from any syphilitic manifestation and gave a negative history in spite of the most searching inquiry, the authors admit their inability to successfully refute the suggestion that these patients might have been subjects of a heredo-syphilis, or a syphilis with ignored or forgotten early symptoms. They conclude by stating that a negative Wassermann is not an absolute assurance of the absence, or the cure of syphilis; that the reaction may be positive in a large number of cases, with neither syphilitic lesions nor antecedents. A positive Wassermann which, after a sufficiently long interval, remains so on a second examination, is presumptive, but not positive evidence of an existing lues.

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SYPHILIS OF THE INTERNAL EAR. P. RIGAUD, p. 203.

Rigaud states that syphilitic involvement of the internal ear is quite frequent. In 581 cases of syphilis which he observed, the ears were affected in 10% of the total number. Gradenigo found 6.8% affected, Bruckner 7% and Batella 9%. He discusses at length the symptomatology and evolution of the disease. The treatment should be a most active one. Mercury should be used for one or two weeks, before employing salvarsan, and should play as important a rôle as the latter, in the subsequent treatment of the disease.

MYELOGENIC LEUKÆMIA AND SYPHILIS. A. NANTA, p. 236.

Nanta believes in a possible ætiological influence of syphilis, in the various types of leukæmic and aleukæmic lymphomatosis. In 8 cases of lymphadenitis, which came under his observation, he found an antecedent syphilis in 3. He calls attention to the pseudo-leukæmic anæmia in infants, and young children, caused by the *treponema pallidum*. It is perfectly possible that the hyperplasia of the myelogenic tissues may be a reaction of these tissues to an infective agent such as syphilis. The negative results of salvarsan and mercury in the treatment of myelogenic leukæmia does not disprove the author's contention, for they are equally inefficient in the leukoplakias. He reports a case of myelogenic leukæmia, preceded by ten years by a bone syphilis of extensive character. The liver and spleen were much harder and more nodular than in ordinary leukæmia.

REVISTA CLINICA DE MADRID.

(Oct. 1, 1913, x, No. 19.)

Abstracted by A. RAVOGLI, M.D.

A CASE OF SEVERE SYPHILIS RESISTANT TO TREATMENT, WITH
SYPHILITIC NEURALGIA OF THE SCIATIC NERVE. E. A.
SAINZ DE AJA, p. 247.

The author reports the history of a patient who contracted a chancre in June, 1912, and without appearance of the secondary eruption, in August (two months later) was covered with large syphilitic ulcers of the body, legs and arms.

The writer explains the gravity of the case by the circumstance that it occurred in the first individual of a family contracting syphilis. Such severe cases have been found in young men in the military service, coming from villages where syphilis is unknown. The system is overwhelmed by the infection and is not able to produce antibodies to check the poisonous invasion. The increased virulence of the spirochætæ and the conditions of vitality of the patient are interesting factors.

The patient was at the same time affected with sciatic neuralgia of the upper femoral tract. Sciatic neuralgia is of syphilitic origin, and although so far *treponemata* have not been demonstrated in the fibres of this nerve, yet there is no doubt that antisyphilitic treatment cures the sciatic neuralgia. He denies the possibility that sciatic neuralgia may be produced by mercury injections under the gluteal muscles, or by the use of salvarsan, but maintains that neuralgia during syphilis is of syphilitic origin and is to be cured with more salvarsan.

POST CONGENITAL SYPHILIS. INFLUENCE OF THE TREATMENT
ON THE PREGNANT SYPHILITIC WOMAN. JOSÉ S. COVISA, p. 257.

The author recommends, in a pregnant woman, one intravenous injection of 0.2 gm. neosalvarsan per week, for four weeks. He does that in order not to

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inject too much of the remedy at once, in a condition in which heart and kidneys are already congested. Following this, he continues mercurial treatment with deep injections of benzoate of mercury. The results are entirely dependent upon the time the treatment is commenced and the way in which it is carried out; but even if late, the influence on the fœtus is excellent and no detriment to the mother has ever been observed. The author reports nine cases of women infected during pregnancy at different periods and with the above treatment they have given birth to apparently healthy children.

(*Ibidem*, Oct. 15, 1913, x, No. 20.)

TEN YEARS OF INVESTIGATION ON CANCER. G. KELLING, p. 281.

A valuable contribution dealing with the experimental phases of the subject.

(*Ibidem*, Mar. 30, 1914, x, No. 6.)

MONILETHRIX. (APLASIA MONILIFORMIS OF THE HAIR.) JUAN DE AZUA, p. 214.

The author credits the first description of this disease to Radcliffe Crocker, Smith and McCall Anderson. He reports a case in a girl in whom the affection began when she was two years old. She presented a typical example of the affection. He agrees with the views of Unna, that this is a deformity of the hair in consequence of keratosis pilaris, with which it is often associated.

ACTAS DERMO-SIFILIOGRAFICAS.

(Oct. and Nov., 1913, vi, No. 1.)

Abstracted by G. A. CARLUCCI, M.D.

SOLUTIONS OF DIFFERENT STRENGTH OF NEOSALVARSAN FOR INTRAVENOUS INJECTIONS. SAINZ DE AJA.

SYPHILITIC CHANCRE OF THE UMBILICUS. JOSÉ COVISA.

SYPHILITIC REINFECTION. JOSÉ COVISA.

The writer reports three cases of apparently cured syphilitics developing the disease all over again, about one year to eighteen months after primary infection. They all had received several injections of salvarsan.

THE PROOF OF PROVOCATION IN SYPHILIS. SAINZ DE AJA.

The author discusses the question of when syphilis is really cured. He states that in several cases, which were apparently cured (negative Wassermann), upon giving small intravenous injections of neosalvarsan, salvarsan, or a short course of mercurial injections, they would give a positive Wassermann or a doubtful one.

He is of the opinion that these small injections of salvarsan or a short course of mercury lightens up some latent process and we have a general reinfection. In other words, he thinks the reaction is similar to the Herxheimer reaction.

He concludes that this test should be applied to all cases where there is the slightest doubt as to a complete cure.

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(*Ibidem*, December, 1913, and January, 1914, vi, No. 2.)

THE VALUE OF GOLD AND POTASSIUM CYANIDE IN SKIN DISEASES. J. S. COVISA, A. SALINZ DE AJA and J. DE AZUA.

All three writers give exhaustive reports of series of cases treated with injections of different strength of gold and potassium cyanide.

The authors come practically to the same conclusion, namely: that the best results with this treatment were obtained in cases of lupus erythematosus, some of which were cured completely while the majority were greatly improved. Some improvement was also noted in some cases of lupus vulgaris. There are three separate articles on the subject.

CLINICA DERMOSIFILOPATICA DELLA R. UNIVERSITA DI ROMA.

(Sept., 1914, xxxii, No. 3.)

Abstracted by G. A. CARLUCCI, M.D.

NODULO-GUMMOUS SYPHILODERMAS AS NUCLEI FOR POLYMORPHOUS CUTANEOUS FIBROMATOSES. CAMPANA, p. 103.

The author is of the opinion that many fibrous conditions of the skin seen in children originally were manifestations of hereditary syphilis.

SEVERE MANIFESTATION OF HEREDITARY SYPHILIS IN A CHILD, LOCALIZED IN ONE FOREARM. G. GARIBALDI, p. 107.

HEREDITARY SYPHILIS AS A COMPLICATION IN CASES OF CHRONIC MALARIA. R. CAMPANA, p. 111.

SOME OTHER METHODS FOR THE CULTURE OF "MICROSPORON FURFUR," THE FUNGUS OF PITYRIASIS VERSICOLOR. A. ZAPPALÀ, p. 117.

A report of a series of experiments carried out with the scales of an afflicted patient. The culture media were some plucked chicken and duck feathers kept in a thermostat, and some feathers in a live chicken. The results were as follows:

The quills lost their lustre, became thin and covered with white spots which could not be rubbed off; on examining scrapings from these white spots microscopically, they were found to contain spores of the microsporon furfur. After several transplantations the spores died out.

THE ACTION OF SOME ESSENCES ON PSORIASIS AND ON THE SKIN OF SOME ANIMALS. C. UNCINI, p. 126.

A report of a series of experiments tried on three patients suffering with psoriasis and on the scalp of several chickens. The essence of mint, eucalyptus, rose, thyme, gelsemine and of vanilla were used. The method of application was by means of cotton soaked in one of these essences, producing, shortly after, a marked reddening of the skin. After several applications of one of the essences to a psoriatic area, a diminution in the desquamation of the skin and a return to the normal were noted.

He noted that if he neutralized the action of the essence with some acid, like acetic acid, his results would be improved.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(November, 1914, cxlviii, No. 5.)

Abstracted by R. C. JAMIESON, M.D.

LABORATORY DIAGNOSIS IN THE EARLY STAGES OF CONGENITAL SYPHILIS. C. G. GRULEE, p. 688.

Grulee analyzes reports of examinations made on infants with regard to blood, urine and cerebrospinal fluid examinations. Nothing definite can be determined from the urine analyses and the routine blood examinations while the Wassermann reaction gives varying results, especially in cases where the test is made in both mother and child, the Wassermann being negative in most cases where mother and child gave the same reaction. Florid cases in the mother gave fewer positive reactions in the child than in old maternal cases.

The globulin estimation, even when positive, is not conclusive and may mean the presence of other pathological conditions. The only test which promises anything is the colloidal gold test of Lange, while the Noguchi luetin reaction is of value as yet only when it proves negative, as all cases giving a negative reaction were not syphilitic.

MODERN METHODS OF TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM. B. SACHS, I. STRAUSS and D. J. KALISKI, p. 693.

All patients had a routine examination of the spinal fluid, Wassermann, cell count, globulin estimation and blood Wassermann. In active lues a routine treatment of salvarsan and salicylate of mercury was instituted. They found equally good results with intravenous salvarsan and salvarsanized serum (intra-spinal), Swift and Ellis method, but were inclined to doubt the value of the latter, as the serum contained such small quantities of arsenic and depended for its action on some substances yet unknown. They state also that twenty-four hours after intravenous injection the spinal fluid contains arsenic in one-sixth to one-tenth the concentration in the whole blood, contrary to the general belief that the drug does not find its way into the spinal canal. They do not consider that the cell count bears any relation to the patient's condition and Wassermann reaction.

In tabes cases the progress of the disease was arrested and the patients felt better (except in rare instances) and the authors think that this treatment could well be used in all such cases with benefit. Equally good or even better results were obtained in cerebral and cerebrospinal syphilis, even cases of luetic optic neuritis recovering under salvarsan treatment.

In general paresis they state that "thus far we have been unable to cure a single parietic, nor are we inclined to the belief that anyone has effected a cure in an undoubted case of general paresis." They have, however, succeeded in arresting the progress of the disease in its early stages by frequent salvarsan injections, and have also seen cases grow progressively worse during treatment.

(*Ibidem*, July, 1914, cxlviii, No. 1.)

A CRITICAL STUDY OF LANGE'S COLLOIDAL GOLD REACTION IN THE CEREBROSPINAL FLUID. R. I. LEE and W. A. HINTON, p. 33.

Lee and Hinton give the technique of this test in detail and a tabulated report of their results which may be best expressed in their conclusions:

A gold reaction typical for syphilis is nearly constant in cases of syphilis of the central nervous system.

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This test is more delicate than the blood Wassermann reaction, spinal fluid Wassermann reaction, cell count and globulin content.

This test has the advantage that it gives a reaction with pathological spinal fluids due to other causes than syphilis; that it is characteristic and easily differentiated from the reaction typical for syphilis.

Our experience confirms the findings of other observers that the gold test is delicate and that the margin of error is exceedingly small.

OBSERVATIONS ON THE WASSERMANN REACTION. B. A. THOMAS and R. H. IVY, p. 55.

Thomas and Ivy deplore the fact that there are so many variations in technique in use for the Wassermann reaction and also that so many different reagents are employed, all going to make the reaction less standardized and less reliable. In the use of antigens they think that cholesterinized antigens are too prone to give positive readings in conditions other than syphilis. The use of cholesterinized and artificial extracts causes discrepancies in the results of different workers, throwing the reaction into disrepute and possibly subjecting some individuals to specific treatment who never had been infected.

ARCHIVES OF INTERNAL MEDICINE.

(September, 1914, xiv, No. 3.)

Abstracted by R. C. JAMIESON, M.D.

A STATISTICAL STUDY OF THE RELATION OF PELLAGRA TO USE OF CERTAIN FOODS AND TO LOCATION OF DOMICILE IN SIX SELECTED INDUSTRIAL COMMUNITIES. J. F. SILER, P. E. GARRISON and W. J. MACNEAL, p. 293.

The authors sum up their investigations as follows:

Pellagra was transmitted to new victims only through very short distances and chiefly to those immediately associated in the home. They did not find the use of corn meal a factor in the production of pellagra in the villages studied nor could they find evidence against canned goods, while the frequent or daily use of fresh meats and eggs gave no protection against the disease. Some protection was afforded by the daily use of milk.

(*Ibidem*, October, 1914, xiv, No. 4.)

THE RELATION OF METHODS OF DISPOSAL OF SEWAGE TO THE SPREAD OF PELLAGRA. J. F. SILER, P. E. GARRISON and W. J. MACNEAL, p. 453.

They summarize as follows: Pellagra morbidity is higher in congested districts using surface privies and endemic foci were present under the same conditions, new cases developing year after year in the villages equipped with privies of that type. In two villages equipped with water sewage system, no original cases of pellagra were found. They think that pellagra spreads in hospitals for the insane more readily among the untidy patients and that these methods of sewage disposal seem to be a factor in the spread and prophylaxis of the disease.

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THE SPECIFICITY OF CHOLESTERIN WITH SYPHILITIC SERUMS AND OF CHOLESTERIN-REINFORCED HEART ANTIGEN IN THE WASSERMANN REACTION. I. CHANDLER WALKER, p. 563.

Walker carefully describes his technique in detail, methods of standardization and preparation, etc., stating that cholesterol in the Wassermann reaction should be employed only by experts and not by untrained laboratorians. He claims for the heart-cholesterin antigen the advantages of ease of manufacture, constant antigenic properties and a superior antigenic property over other antigens, especially in late syphilis. He also states that no disadvantages are apparent when the antigen is carefully controlled and all reagents carefully titrated.

In his further work he found that the amount of serum required for fixation varied in different persons and states that it was possible, through elaboration of this technique, to determine whether a luetic eruption was an early or late one.

He also believes that the cholesterol present in the antigen was the specific agent which combined with the syphilitic serums.

JOURNAL OF EXPERIMENTAL MEDICINE.

(November, 1914, xx, No. 5.)

Abstracted by R. C. JAMIESON, M.D.

DO SUBSTANCES INHIBITING TUMOR GROWTH EXERT A RETARD- ING INFLUENCE ON THE REGENERATION OF THE SKIN? W. E. LEIGHTON, p. 542.

Various substances were used, namely, colloidal copper, hirudin, nucleoprotein and casein, and studied with regard to the effect on tumor growth and wound healing to determine if intravenous injection of these substances could produce any change in the healing process.

The results show a negative influence upon the process of regeneration.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

(May 15, 1914, xvii, No. 10.)

Abstracted by R. C. JAMIESON, M.D.

VACCINE LICHEN IN NATIVES. A. J. CHALMERS and CAPT. W. BYAM, p. 145.

This article is for the purpose of describing a vaccine eruption as it appears in the negro. The lesions described usually appeared about eight days after vaccination, preceded by itching, principally on the forearms, which was soon followed by dark macules quickly changing to papules, involving in successive crops first the backs of the hands and forearms, then the back of the neck, the face, forehead, chest and back, varying greatly in numbers. The eruption developed upon a sound skin and became papular or papulo-vesicular, distinctly elevated but without any pustular development. The papules were the size of a large pin-head and were sharply dome-shaped. The appearance of these lesions was preceded by fever and they disappeared in four to five days, followed by a slight desquamation. Microscopically these papules contained small, variable-sized vesicles

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between the stratum corneum and lucidum and stratum granulosum. The general appearance was that of a lichen.

(*Ibidem*, July 1, 1914, xvii, No. 13.)

THE TREATMENT OF YAWS AND THEIR SEQUELÆ BY MEANS OF SALVARSAN. E. C. GIRLING, p. 193.

Girling states that they have treated fifty cases of yaws in various stages, and in all cases recovery was rapid and complete. They now use .075 gm. of salvarsan per kilo body weight, children as well as adults, and have found that one injection was sufficient to produce a cure.

A BRIEF NOTE ON AMŒBIC DERMATITIS. LIM BOON KENG, p. 193.

This dermatitis begins as a small, hard, papular eruption suggestive of variola, becoming vesicular in a day or two and increasing to the size of a pea. Each papule breaks down and may leave a depressed ulcer, which may enlarge or tend to heal. The condition is very itchy and contagious, but tends toward spontaneous healing and traveling to a new area. In most cases the lesions begin near the anus, and amœbæ are generally found in the stools. Lesions may appear anywhere, and severe septicæmia may occur. Amœbæ are recovered from the papules, that are indistinguishable from the *Entamoeba histolytica*.

Treatment consists of emetine chloride hypodermically, producing a degeneration of the amœbæ in the lesions. Local lesions (ulcers) can be treated with mercurials or sulphur.

(*Ibidem*, Sept. 1, 1914, xvii, No. 17.)

TINEA CAPITIS TROPICALIS IN THE ANGLO-EGYPTIAN SUDAN. A. J. CHALMERS and ALEX. MARSHALL.

The authors describe a fungus causing an alopecia on the scalp in natives of the Sudan. They give a history of ringworm in the tropics and a minute description of the laboratory methods used for differentiating and placing their species. The fungus causes small white areas on the scalp, with broken hairs and slight scaling, showing as spores in the hairs examined with caustic potash. Resulting lesions somewhat resemble the scars of favus, but have no cicatrices. Treatment should be prompt, as the disease is spread very slowly.

(*Ibidem*, Oct. 1, 1914, xvii, No. 19.)

THE SYSTEMIC POSITION OF THE GENUS TRICOPHYTON MALMSTEN, 1845. A. J. CHALMERS and ALEX. MARSHALL, p. 289.

This article is mainly of historic interest, and states the authors' reasons for placing the *Tricophyton* Malmsten, 1845, with the family Gymno-ascaceæ Baranetzky, 1872.

MOLLUSCUM FIBROSUM, PENDULATUM ATQUE ELEPHANTIAECUM. F. S. HARPER, p. 291.

A brief report of a case in West African Gold Coast, which had had an enormous number of fibromata since early childhood. The patient's mother was said to have had the same trouble. The whole left side showed more pronounced manifestations, with the left leg showing signs of elephantiasis.

THE JOURNAL OF CUTANEOUS DISEASES

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EDITORIAL.

THE NAMING OF DISEASES OF THE SKIN.

EVERYONE who wishes to take a shy at a vulnerable subject throws a stone at the strange and weird names given to diseases of the skin. Many of them, however, have a long and honorable pedigree, and have achieved, by a natural gradation, their present definition. When, however, they are seen in the foreshortening and compression of a dictionary, they look as if employed by the several "authors independently, as by Post-Impressionists, who let words stand for what they seem to mean at the moment to the user, and not for the particular things usage has agreed they mean."¹

Admitting that there are a great many inconveniences with our present nomenclature, and that the names are so numerous and so confusing that it is impossible, for instance, to give a student any lucid comprehension of them, yet they are in many instances so vividly descriptive that they often fix facts in the mind that would otherwise escape notice or be quickly forgotten. Our culture depends on many things; an anecdote, a correlation of events, or an accidental occurrence may change our estimate of a subject. Words, it is needless to say, are particularly fruitful in conveying or accentuating impressions, but the importance of words does not derogate even from the value of the sign language in certain contingencies.

Except for a few isolated terms, such as the itch, or a boil, the English language is very poor in descriptive names for diseases of the skin. To the ordinary mortal, unlearned in the derivation or history of words, they are as devoid of meaning as if they were Choctaw. Examples of these are shingles, wen, felon, whitlow and others. It seems to me that the German and French languages are fuller of descriptive terms. On the other hand, the word ringworm,

¹ As given in "The Point of View," *Scribner's Magazine*, December, 1914, p. 811.

the ringed creeper, is quite descriptive. So much so that the laity persists in calling all spreading ringed diseases of the skin, ringworm.

Descriptive names are very helpful if properly taken as descriptive of some disease phase that has struck the earlier clinicians as being characteristic. On the other hand, they may be misleading if supposed determinative of the whole course of the disease. Many imagine, for instance, that ringworm must always appear as rings on the skin, and that any skin disease that appears as a diffuse patch must necessarily not be ringworm. This is not so. In long standing cases of ringworm of the scalp, the whole head may be covered with matted white scales in which are broken hair stumps. Very many normal hairs remain also, so that as Adamson says, the condition is often regarded as a scurfy scalp.

Conventionally, at present, herpes indicates a vesicular disease, whether herpes simplex, or herpes zoster, or herpes circinatus, which is a clinical type of Dühring's disease. The meaning however, of the Greek word from which it originally sprang is "to creep," and in its progress from this meaning to its present one, it has given rise to some misunderstandings. The popular name among French physicians for ringworm of the free surface is still herpes circiné, and assuming that the word herpes here represents the old meaning, to creep, the term would be equivalent to the circular creeper, or ringworm. Just here intervenes a most interesting clinical fact, for in ringworm of the free surface there is usually an outcropping of vesicles at the advancing margin of the extending ring. Many believe that the word herpes refers to these vesicles, but when the disease is called herpes tonsurans vesiculosus, as it is by Jesionek, this contention falls away, as the occurrence of "herpes" and "vesiculosus" having the same meaning in the same name, would be tautological. It is much easier to assume that in such a case the word herpes harks back to its ancient meaning, to creep. In any event, this collation of words, or even the word herpes, as referring to ringworm, should be dropped as leading to confusion.

The technical name for ringworm, tinea, is interesting. The Latin word tinea, the French teigne, means a moth, and evidently refers to the peculiar gray appearance of the scalp in ringworm. These tinea patches resemble in color and appearance the gray cottony moth nests found in moth infested carpets and woolen goods. This gray cottony look is of importance as a symptom in ringworm of the scalp, and its presence or absence often determines the weighty question whether the patient shall or shall not be segregated, and whether the treatment shall or shall not be continued. Also the

search for specimens for microscopical examination is much facilitated by first looking over the scalp for these dull gray, cottony patches. In this way, this name may serve as an aid in remembering a most important symptom. As a student I used to confuse tinea, ringworm, with tænia, tapeworm. The distinction may be kept in mind by recalling that tænia means a ribbon, and many a Latin maiden no doubt "got a bunch of blue ribbons (tæniæ) to tie up her bonnie brown hair," without in the least thinking of tapeworms while she was doing it.

The word shingles is an interesting one, and to the unadept would appear to signify that the disease might be a scaly one in which the scales overlap, like shingles on a roof. Quite to the contrary, it applies to a vesicular disease, and its ætiology shows that descriptively it refers to an entirely different feature of the disease than the individual lesions. It refers to the arrangement of those lesions in a circular way about the body. It is derived from the Latin word cingulum, a girdle. The Spanish word cinchar, is also derived from cingulum, whence, through association between American mining prospectors, and Mexican donkey drivers, was derived the Western American word, cinch; the cinch strap being the girth. So we see the two words, shingles and cinch, to have as common parent, cingulum, and the man who is suffering the agonies of the neuralgia which sometimes accompanies herpes zoster of the trunk, may reflect that the disease has a "lead pipe cinch," at least half way around his body. The engirdling feature of shingles is so striking that all its names take it into consideration, as zoster, zona, Gürtelkrankheit.

The word wen seems to have been used for several swellings besides sebaceous cysts. For instance, it once was a name for goitre. It is derived from a Gothic word meaning to suffer, and probably referred to the mental anguish caused by the deformity more than to the physical suffering.

Felon seems to be derived from the Latin word fel, the gall, the original meaning being one who, or something which, is full of bitterness or venom, the two meanings being closely associated in the beginning. Certainly, as one writer says, "a felon is a naughty sore, and is full of much anguish and bitterness."

Whitlow has a curious etymology. It is a corruption of quick-flaw, a flaw or sore in the quick, and as such expresses very well the denudation of the rete Malpighii, or quick, that occurs in paronychia.

Morphœa is a name confined now to a disease that arises as a pink or violet indurated patch which blanches and becomes more in-

durated in the centre, while it spreads at the periphery by a pink or lilac border. The malady is now known to be a form of circumscribed sclerodermia, and not an independent disease at all. Formerly the name morphœa was not employed in any such restricted sense, nor is it, as one might assume, derived from the name of the Latin god of sleep. It was frequently spelled morphew, and had a very wide application indeed, and included chloasmata, and rough, brown, seborrhœic patches, and in fact, any blemish on the skin.

The literal meaning of the word impetigo may serve to keep in mind the viciously impetuous nature of streptococcic attack. We all know what the streptococcus will do when it finds a fat, pulpy person, who is at the same time anæmic, and whose tissues are, therefore, watery and suited as food for this moisture loving micro-organism. Impetigo contagiosa of course, is only one of the many varieties of trouble that the streptococcus may occasion.

It is interesting to note that the Japanese name for a bullous form of impetigo contagiosa, which Dohi says is due to a staphylococcus, and which prevails among children in summer in Tokio and other parts of Japan, as well as in Formosa, conveys the same impetuous meaning as our own Latin designation. It is called by the Japanese "Tobici," meaning literally "a spark of fire."²

There is a persistent, troublesome form of impetigo contagiosa that occurs in the corners of the mouth in children, and for which we have no name in English. The French call it *perlèche*, a form of the word *lecher*, the German *lecken*, the English to lick, and evidently refers to the way children lick the affected corners of the mouth with the tongue. Its interesting feature is that the constant moisture entailed in this licking may have to do with the persistence of the disease, as the streptococcus, the most usual cause of impetigo, is, as above mentioned, notoriously fond of moisture. It would appear as if the common people unconsciously here had seized upon an important ætiologic fact.

The French colloquial name for alopecia areata is *la pelade*, and it is highly descriptive of the disease. *La pelade* signifies the wool that is scraped from a slaughtered animal or from a hide in order to clean it before tanning, and it is suggestive of the way the hair will peel off an alopecia spot; peel and pelade are cognate words.

The German name, *Wasserpocken*, or water pox, for varicella is descriptively good when one remembers the flaccid, loose, thin topped pustules with their turbid contents, looking like dirty water. They

² Zur Klinik u. Ätiologie d. Impetigo contagiosa. K. DOHI u. SH. DOHI. *Arch. f. Dermal. u. Syph.*, March, 1912, xci, p. 629.

contrast strongly with the well formed, tense, stoutly covered variola pustules, with their thick, creamy contents.

The word variola itself is interesting. It means a mixture, and is a mediæval corruption of the Latin word *varius*, meaning variety. It appears that smallpox would not fit into the Galenic scheme of medicine, so that when a physician, committed to this view of medicine, met with any general pustular disease he would simply say that it was variola or a mixture. When the great epidemic of syphilis appeared at the close of the fifteenth century it was called *la grande vérole*, the great variola, or simply the pox, in contradistinction to *la petite vérole*, the small pox, or simply variola. Certainly the syphilides are a mixture in this sense, as one of the diagnostic features of a fully developed papulo-pustular syphilide is the variety of its lesions.

The words tubercle and tubercular in their relationship on the one hand with lupus, and on the other with some of the cutaneous manifestations of syphilis, is confusing. The word tubercle, the diminutive of tuber, which is cognate with tumor, naturally calls up in the mind the idea of a bunch, or nub or excrescence. The tubercle of lupus has, however, clinically, no characteristics of a tumor; it is a small spot or macule, wonderfully well described as resembling a minute speck of apple-jelly sunk in the tissue. It is not prominent and it is not palpable, as one would expect a formation having the name tuber or tubercle to be. Clinically, therefore, it is not a tumor, or tuber, or tubercle. It is only when sliced, stained and mounted that the individual lupus lesions are seen to be well circumscribed collections or lumps of cells.

The word tubercular, however, is often also applied to certain papular syphilides. These are firm and hard and do project above the surface as hard nubs, and therefore have the clinical attributes of tumors or tubers. But unfortunately the word tubercular has also an ætiologic sense, and often indicates that the lesion under consideration belongs to the large class of tuberculous diseases caused by Koch's bacillus. This, in the case of syphilis, is absolutely not so; these syphilitic manifestations are purely spirochætal in origin, and have nothing whatever to do with tuberculosis.

The dilemma of a student under the above circumstances may be imagined. The elementary manifestation of lupus is called a lupus tubercle, not because it is clinically a tumor, but because it belongs to the great disease, tuberculosis, and because it shows under the microscope a well circumscribed mass of cells, whereas a tubercular syphilide has received its attributive because it clinically presents the

attributes of little tumors, and not because it has anything to do with the great disease tuberculosis.

Because of the above confusions it has been suggested to call the primary manifestation of lupus a lupome, a suggestion which probably will find very little favor. Words, like seeds, have at first a very precarious existence, and usually die out almost as soon as formed.

The word lupus, or the wolf, as a disease epithet, is a very old one, and originally meant an ulcer no matter of what nature. For instance Rabelais applied it to ulcer of the leg. At the end of the prologue to *Pantagruel* he exclaims, "Que le mauлубec vous trousque!" which done into English: That the ulcer of your leg may make you limp! The word mauлубec means literally mauvais loup, an evil lupus or wolf. With the laity in our own day, the word lupus is often applied to any chronic ulcer of the face, no matter what its nature.

The confusion in regard to the word lupus is completed by applying it to a disease, lupus erythematosus, which is not occasioned by the tubercle bacillus and, therefore, is not tuberculous, and which is not even ulcerative.

As for a definition of the word tumor, Virchow long ago said that even under torture there could not be pressed out of a man a definition comprehensive and inclusive enough to embrace them all. When I see a question in an examination paper calling for such a definition, I always feel inclined to congratulate both the examiner and the examined on the happy exchange of thought that will ensue.

Not long ago, in a foreign medical journal, I ran across the expression "a peeling of the cuticle."³ It was like meeting an old friend, and was much fresher and more euphonious than "a desquamation of the epidermis," as it would be rendered now. At any rate it was a relief from the monotonous reiteration of the later phrase.

On the other hand, no matter how much we may become attached to old words, new words must be framed to meet new conditions, and the meaning of old words must be modified for a like purpose. This evolution takes place so rapidly that, as Billroth long ago pointed out, if we cease reading a progressive literature for six months, on recommencing, we have almost to learn a new language. No wonder that in a dictionary such words look as if used by Post-Impressionists, each word standing for what it seems to mean at the moment to the user, and not for the particular thing usage has agreed it shall mean.

DOUGLASS W. MONTGOMERY, M.D.

³ Quotation from TILBURY FOX by MARIE KAUFMANN-WOLF. Ueber Pilzerkrankungen der Hände und Füße. *Dermat. Zeit.*, May, 1914, p. 385.

A CASE OF GENERALIZED CONGENITAL
KERATODERMA.*WITH UNUSUAL INVOLVEMENT OF THE EYES, EARS, AND NASAL AND
BUCCAL MUCOUS MEMBRANES.

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AS a generic term, ichthyosis has been employed to include a number of more or less allied affections of the horny layer of the skin, beginning in early life. But the title, as it is now usually understood, is restricted to quite well defined clinical characteristics, together with some histological peculiarities which, while not pathognomonic, are considered by some investigators as closely associated with this dermatosis.

In prefacing his definition of ichthyosis, Unna (*Histopathologie*) names a list of diseases that should not be classed as such, but inasmuch as all those mentioned already bear definite names, the precaution would seem one of diagnostic value rather than an aid to classification.

Most authors, however, now agree in their general description of ichthyosis and its several subdivisions, though rare aberrant cases are frequently referred to, whose proper place seems doubtful.

In recent years some of these variant cases have been described with separate names. Brocq (*Traité de Dermatologie*), notably, under the title of "Congenital ichthyosiform erythroderma," portrays a clinical picture which bears no more resemblance to ichthyosis than does pityriasis rubra pilaris, or keratosis follicularis. And both Unna and Darier recognize congenital hyperkeratosis of the skin as a separate malady.

In view of the occasional encounter with cases of congenital keratoderma difficult to classify, the following account of a patient has seemed worthy of record.

CASE REPORT.

The patient is a boy, sixteen years old, partially blind and totally deaf, but otherwise well-developed physically. He is intelligent, and not more backward in education than the difficulty of his instruction will excuse.

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

Both parents, three sisters and two brothers are living, in none of whom is there a similar affection; nor can it be discovered that any of his antecedents have been affected with skin disease that might be construed as related to the one in question.

It is the parents' impression that abnormal changes in the child's skin were noticed first when he was about a year old and that, from thence on, until ten years of age, the condition of the skin became gradually worse.

Impairment of vision and hearing were remarked at a period closely corresponding with the incidence of the skin malady.

It was in June, 1908, when the affection was at its height, that the boy came first under my observation. He was admitted to the Dermatological Ward of the Massachusetts General Hospital, where he remained a month; and subsequently his condition has been followed, from time to time, both in the ward and in the out-patient department of the hospital.

While the intensity of the skin process has declined during the past six years, the original surfaces of distribution and emphasis remain the same. The general character of the affection is unchanged; it is only modified in intensity.

The dermatosis is generalized, showing special preference for the flexures of the knees, the hands and feet, and the face. Save for a mild xerodermic condition, the greater extent of the trunk is exempt.

The type of lesion is that of abnormal cornification, and varies on different parts from spinelike elements, such as those on the scalp and neck, to marked keratotic thickening of the hands, feet and popliteal spaces. Exfoliation from the surfaces is slight, for the horny surfaces seem decidedly cohesive and desquamate only a small amount of branny scales.

Continuous with the involvement of the nose and orbicular regions, the cutaneous process extends onto the lips, and buccal and nasal mucous membranes, presenting on these surfaces a rather dry, superficial thickening that closely resembles the clinical picture of leukoplakia.

The corneal portions of both eyes are thickened and uneven, the latter peculiarity being due to punctate depressions, which produce a somewhat stippled appearance. Hypertrophic blood vessels surround the corneal borders, and send branches over their surfaces. These abnormalities give to the eyes a semi-opaque aspect and produce a high degree of blurring, so that only large letters in strong contrast are visible to the patient. The intrinsic tissues of the eyes are unaffected.

Deafness is total. Both membrana tympani are retracted, thickened and congested. As in the nose and mouth, the ear condition is continuous with the process on the adjacent skin. It is the opinion of consultants who examined the eyes and ears that the abnormalities of these organs are allied to the morbid changes in the skin and mucous membranes.

General physical examination has revealed no other defects. The Wassermann reaction was negative.

Detailed description of the skin. The hair of the scalp is blond, dry, and generally sparse, while over the parietes and occipital regions it is still further thinned in irregular areas. Disseminated over the scalp are spinelike keratotic lesions, which vary irregularly as regards both profusion and size. These acuminate elements are especially marked over the back of the neck, where they stand out prominently, in some instances attaining a millimetre in length. The face is symmetrically affected. Beginning at the level of the brows and extending outward and downward to a point midway between the malar prominence and antitragus, the process continues in the form of an uneven, somewhat reticulated band, meeting at the mouth on either side and completely covering it, and thence extending further downward, finally terminating at about the level of the thyroid cartilage. The coarse reticulated shape on the face stands out with fairly well-pronounced margins. The affected skin is grayish in hue, with

a moderate degree of rather dull underlying erythema. The involvement of the nose apparently forms a part of the general configuration on the face, the process extending on to the nasal mucous membranes, as already mentioned. Both auricles are thickened and slightly reddened. Certain areas over the apparently unaffected portions of the face show, on close examination, many minute acuminate keratoses. The teeth are well developed and in good condition.

The trunk is free, at present, except for irregular palm-sized areas of horny infiltration on the buttocks.

With the exception of that on the scalp, hair is everywhere absent.

The upper limbs are symmetrically covered to the elbows. Both palms are greatly thickened and present a coarse, stippled appearance over their surfaces, due to a profusion of minute depressions, somewhat resembling those to be seen in *keratosis follicularis*. The backs of the hands and contiguous portions of the forearms are of a light, dull red color, considerably thickened, and show greatly exaggerated lines of cleavage.

Desquamation is slight, and branny in character.

Dystrophy of the nails is pronounced.

The conditions on the lower limbs correspond almost exactly with those of the upper extremities. There the process is also symmetrical and terminates at the knees. The toe-nails are likewise dystrophic, but are more aggravated with respect to deformity than the finger-nails.

HISTOLOGICAL REPORT.

Specimens for microscopic examination were excised from the extensor surface of the right forearm and from the back of the neck.

The stratum corneum was everywhere thickened and showed great irregularities of cornification. Its surface presented a jagged, wavy line, due to thinning of the rete over the papillary projections; the relatively depressed spaces between the papillæ being filled with horny material. The cells of this layer contained no nuclei, keratinization evidently being complete. The granular layer varied in amount from decided thinning to considerable hypertrophy. In sections from the neck, where the keratotic activity is greatest, it frequently almost disappeared.

The stratum mucosum was irregular in amount. In places it became compressed to a few rows of cells, while in others there was a moderate amount of acanthosis. Cornification was so generally active that the horny layer was formed at the expense of the prickle cells. In fact, in many regions there seemed to be an almost direct transition of the basal cell layer into horn cells. Hyperplastic portions of the rete were mainly formed by an increase of basal cells. A quite pronounced protoplasmic swelling was discernible throughout the prickle cells. Here and there, horny pearls were seen within the rete. Horn tissue also invaded the hair follicles and, in the corium, formed large whorls.

The stroma of the corium showed no abnormalities. Inflammatory infiltration was nowhere evident.

The sebaceous and coil glands were normal except that their ducts were somewhat thickened and constricted.

Treatment of the case has been hygienic, local and internal. There seems little doubt that the benefit of simple hygiene, which the patient has received while in the hospital, and continued at the Perkins Institution for the Blind, where the patient lives during

the greater part of the year, has contributed much to his general improvement. Of external remedies, the use of salicylated soap plaster on the most aggravated areas and inunctions of salicylated oil generally, have seemed to accomplish most. At different times thyroid extract has been given internally; but I have been unable to convince myself that any appreciable benefit has resulted from its use.

Since many diseases attended by excessive cornification, of quite different nature, are often grouped together as ichthyosis, it is desirable to make such affections as concrete as our understanding of them will allow, without, however, unduly augmenting nomenclature. And in the absence of specific ætiology, our classification of a disease must depend on its clinical symptoms, together with its associated histologic changes.

It would seem obvious that, in distribution, the emphasis of the foregoing case is different from and, in some respects, the reverse of, ichthyosis. In the latter affection, the extensor surfaces are especially involved, while the face and scalp are rarely affected, and implication of the palms and soles is a very unusual occurrence. In the case under consideration, involvement of the flexures is marked, the head is generally affected, and horny thickening of the palms and soles is particularly pronounced.

In their clinical descriptions of ichthyosis, recent authors usually agree; and it is scarcely within bounds, in this connection, to discuss differentially such diseases as pityriasis rubra pilaris, or keratosis follicularis of Brooke.

In 1902, Brocq (*Traité de Dermatologie*) described a dermatosis which has been designated "Congenital ichthyosiform erythroderma." That it is an entity he does not claim, but asserts that "*en tous cas il est certain qu'elle ne peut être identifiée avec l'ichthyose vulgaire.*"

To Brocq's affection my case bears similarities with respect to localization, involvement of the palms and soles and in the presence of a mild erythema. In my case, however, there are lacking hypertrophic changes in the hair and nails, seborrhœa of the scalp and any exudative or bullous element.

The histological changes are those of hyperkeratosis. As regards the hypertrophic granular layer and absence of inflammatory infiltration, they differ from some of the accepted appearances in ichthyosis. The spinelike lesions, seen prominently on the neck and face, are to be explained by compression of the papillæ and overlying hyperkeratosis. These lesions are regarded by Unna (His-

PLATE XIV.—To Illustrate Article on A Case of Generalized Keratoderma,
by FREDERICK S. BURNS, M.D.



Figs. 1, 2, 3 and 4.
Showing thickened skin and nail involvement.

PLATE XV.—To Illustrate Article on A Case of Generalized Keratoderma,
by FREDERICK S. BURNS, M.D.

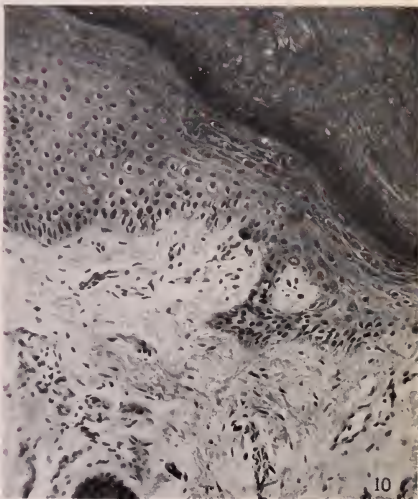
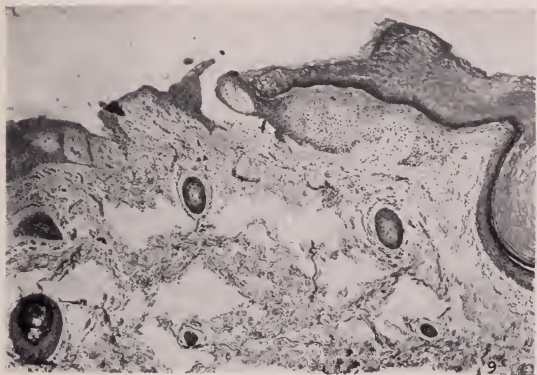
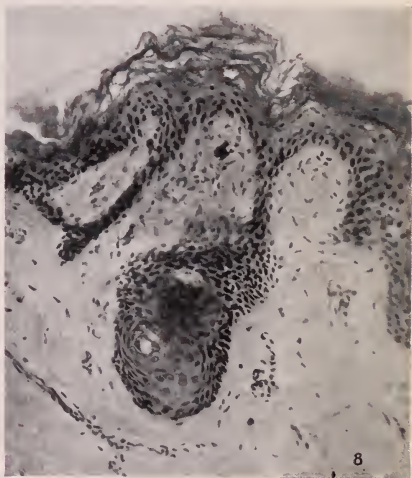
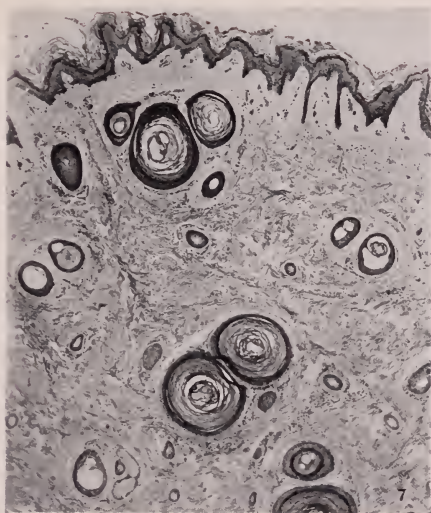


Fig. 6.
Showing follicular involvement.



Fig. 5.
Showing thickened skin.

PLATE XVI.—To Illustrate Article on A Case of Generalized Keratoderma,
by FREDERICK S. BURNS, M.D.



Figs. 7 and 8. Section from back of neck. Hyperplastic horny layer, acanthosis and epidermis whorls.

Figs. 9 and 10. Section from right forearm. Hyperplastic horny layer; hyperplastic granular layer; acanthosis; oedema of prickly cells.



Fig. 2.

Showing lesions on neck, face and hands.

Note sharp demarcation at wrists and on sides of neck; also discoloration about the mouth.



Fig. 1.

Shows lesions on the hands.



Fig. 3.

Showing lesion on the neck.

Note the sharp convex limitation of the eruption over the sternoclavicular articulations.

topathologie), with whose opinion I am in accord, as a consequence of hyperplasia of the horny layer and not a distinctive element of an eruption.

Occurrence of keratosis on the buccal and nasal mucous membranes has seemed a symptom of especial interest. Thibierge (*Annales*, 1892, p. 717) refers to such localizations as of "extremely rare and almost unknown occurrence;" and Stelwagon (*Diseases of the Skin*, 7th ed.), commenting on the above article, remarks that "unusual features in a so well marked malady as ichthyosis must always be regarded with suspicion."

So far as I have been able to ascertain, hyperkeratosis of the eyes and ears, associated with corresponding disease of the skin, is unique. But of the analogy between the condition of those organs and that of the skin there seemed little doubt, in the opinion of the physicians in consultation. Lameris (*Annales*, 1906, p. 504) reported a case in which hyperæsthesia and corneal changes in the eyes were present, but the nature of the eye lesions was not made clear. To hyperkeratosis extending into the ear, I have been unable to discover any reference whatever.

CONCLUSIONS.

The case is an example of congenital hyperkeratosis, and probably should be classed with deformities of the skin like keratoid naevi.

The attendant lesions of the mucous membranes are of unusual occurrence, and those of the eyes and ears extremely rare.

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DISCUSSION.

DR. GRINDON said that although Lebert, as long ago as 1864, clearly distinguished hyperkeratosis congenita from ichthyosis, the term "congenital ichthy-

osis" was still current, although true ichthyosis was never congenital. In the cases of congenital hyperkeratosis that had come under his observation, the facies was markedly different from that in the photograph shown by Dr. Burns. The lips were thin and undeveloped, so that the teeth were imperfectly covered, and the lobe of the ear was missing.

Dr. MONTGOMERY remarked that in ordinary ichthyosis, the palms and soles are affected.

Dr. BURNS replied that the photograph did not show the condition in its most aggravated form. This boy had been under observation for several years, and the process was not now as pronounced as it had been.

In answer to a query by Dr. Montgomery, Dr. Burns further said that there was no pigmentation, nor did any of the lesions clinically suggest *acanthosis nigricans*.

Dr. RAVOGLI said that in ichthyosis we very seldom find the palms and soles and nails affected as they were in this case, which suggested rather a case of *pityriasis rubra pilaris*. In fact, the anatomical-pathological condition of the small nodules was quite characteristic of that disease, as shown by the microphotographs. The same was true of the larger lesions involving the epidermis.

Dr. BURNS, in closing, replying to Dr. Montgomery, said he wished to repeat that the process, as seen at present, did not really represent the aggravated appearance as it was two years ago. Then the palms and soles resembled somewhat the appearances seen in *keratosis follicularis*. The epidemic thickening was intense over the affected regions, with an underlying erythema that was particularly pronounced over the face, where the patches had the appearance of a diffuse keratoid *naevus*. He thought the general opinion was that the soles, face and scalp were not usually affected in *ichthyosis vulgaris*. While he realized that this was a clinical and artificial distinction, the chief points of differentiation in this case lay in the distribution and nature of the *keratodermnia*, the character of the scaling and the underlying erythema. The existence of a mild degree of inflammatory infiltration in cases of *ichthyosis vulgaris* was very common, but in *his own case*, such changes were entirely absent, and he wished to lay especial stress on the concomitant involvement of the mucous membranes and the organs of special sense.

237 MARLBOROUGH STREET.

THE ALOPECIA OF HYPOTHYREOSIS.

By DOUGLASS W. MONTGOMERY, M.D., San Francisco.

DIMINUTION or absence of the secretion of the thyroid gland is well known to give rise to changes in the skin and its appendages. These symptoms are:

Myxœdema;

Roughness and dryness of the skin;

Yellow complexion, with a rather circumscribed redness of the cheeks, called the malar flush;

Dry, seborrhœic coating of the scalp, constituting at times a thick crust;

Dryness, lack of lustre, wiriness and defluvium of the hair;
Acroparæsthesias;
Chilly feelings of the cutaneous surface;
Dystrophies of the nails.

The following case is reported principally because of an unusually good result as regards the hair on the administration of thyroid extract.

January 22nd, 1913, a man in a sedentary occupation, forty-one years of age, was referred to me because of the hair at the vertex becoming, for the past two years, noticeably thinner. It was dry and wiry looking, and besides growing thin at the vertex, it was decidedly retreating up the forehead and on the occiput. The scalp was covered by a tightly adherent, greasy coat of scales. The type of the alopecia, therefore, was that of seborrhœic senility, as it occurs in the male.

The patient's countenance was interesting: He was quite fat, with a heavy, expressionless face. He had a dull, heavy, thick, waxy skin, with a lemon-yellow complexion, red nose, a flush over the malar prominences, pallid eyelids, and blue ears. The lips were heavy. The voice was husky and its tones, measured and slow, gave a drowsy impression. In the winter he would get itchy spots on the thighs and legs, which, when scratched, became purpuric.

It was remarked that the gums were redundant, and his dentist said that this redundant appearance was due to a number of pockets in the interstices between the teeth, filled with a serous exudate. There was no pus in these pockets, and no deposit of calcium salts on the teeth. The teeth were loosening.

The thyroid gland was not demonstrable.

The general examination did not elicit anything remarkable. With cold nitric acid the urine showed much indican, and a green color ascribed to bile.

The blood color was 77% on the Dare instrument.

The tongue was normal, the appetite was good and the bowels were regular. The abdomen, however, was markedly hypertympanitic throughout, which might have been due to a heavy intake of casein, which he took as milk, of which he drank two glasses a day, and as cheese, of which he was very fond.

The patient was put on a normal diet, with directions as to the care of the alimentary canal, and to exercises.

For the scalp a prescription containing coal tar and sulphur was ordered, together with directions as to regular shampooing.

He was given five grains of thyroid extract a day, and under this and the above measures he improved remarkably.

The following fall, that is, about eight months after beginning treatment, the hair was growing excellently. It became curly, brown and glossy, and this in spite of the fact that there was still some seborrhœic accumulation about the points of emergence of the hairs. Even in some situations where the fall had been complete, as at the frontal margin of the scalp, there was a new growth of hair. The nose also became less red. His dentist reported a much better condition of the gums and teeth. It was about this time, though, that he began to notice a loss of weight, and he brought me the following figures:

On Sept. 12	he weighed	144½	pounds.
On Sept. 25	“ “	142½	“
On Oct. 25	“ “	139	“
On Nov. 3	“ “	137	“
On Nov. 10	“ “	136	“
On Nov. 13	“ “	137	“

He had been taking five grains of thyroid extract a day, since the commencement of treatment, and this was now cut down to one and one quarter grains. Under this treatment he increased in weight up to one hundred and forty-two pounds, his general health remained good, and the hair, gums and teeth maintained their improved condition. The mentality was more alert, and the voice had a more normal, flexible sound.

It must not be supposed that the evidences of privation of thyroid secretion were pronounced in this case. For instance, myxœdema, one of the most characteristic of these symptoms was absent or possibly only present to a very slight extent as shown by the heavy lips. The patient sought relief for fall of hair, and it was after examining his scalp that the peculiar complexion, the heavy countenance and the malar flush were noticed. Then the absence of a demonstrable thyroid gland was noted, and the manner of speech was remarked. On obtaining this group of symptoms no other conclusion could be drawn than that the patient was suffering from hypothyreosis. When the loss of weight occurred, and especially when this loss was arrested on decreasing the dose of thyroid extract, it was looked upon as additional evidence of the correctness of the diagnosis.

The principal points of interest in this case are:

- (1) The condition and the fall of the hair;
- (2) The condition of the skin;
- (3) The condition of the gums and teeth; and
- (4) The evidence of overdosage by thyroid extract as shown by loss of weight.

The condition and the fall of hair and the condition of the skin were such as are found in what is called *seborrhœa*.

In *seborrhœa* the skin has a dull yellow appearance, and the upper layers are thickened. The ducts of the sebaceous glands are frequently enlarged, especially in certain localities, as across the middle zone of the face, in the hollow of the ear shells, across the chest in front, and across the shoulders behind. The secretion from the sebaceous glands is also altered; it is either unduly thick, sometimes even horny, or it is too thin and oily and over-abundant. The function of the sweat glands is often affected; they secrete too much sweat, and too much oil, for the sweat glands are also oil glands. Physiologically the epidermis is renewed from below upwards, and the topmost cells are insensibly cast off as dry, horny platelets. So fine are these platelets, and so imperceptibly is this desquamation accomplished, that we are unaware of it, and it leaves a smooth, translucent horny covering as a protection to the subjacent quick. In the white races this covering is light yellow with a touch of rose from the scarlet red of the blood shining through, from beneath. This gives what is called complexion, an indescribably beautiful color effect. In *seborrhœa* the desquamating platelets are so often retarded from leaving the surface that they frequently cause perceptible thickening and roughness of the surface, and the translucency of the horny layer is dimmed, so that the red of the blood beneath does not shine through as a clear pink. The complexion, therefore, is dull and the skin rough, heavy and thick. It is a consideration of these phenomena particularly that causes Darier to call the condition *kerosis* instead of *seborrhœa*. Sometimes, as an expression of the same general phenomena, the desquamation of the superficial epithelial platelets, instead of being retarded, is hastened. In any case the altered epithelial cells, and the patulous sebaceous gland openings, filled with an unhealthy fatty secretion, give an opportunity for the growth of pathogenic bacteria, that cause all the variations of *seborrhœic* eczema and associated skin diseases.

The condition of the hair, which is eminently an epithelial struc-

ture, is always affected in seborrhœa. At first it may grow with unnatural rapidity and abundance, and may become very oily. Then it may become unnaturally dry, and may begin to fall rapidly. In either case it loses its beautiful lustre and becomes dull and lifeless looking.

Seborrhœa is an expression of the faulty elaboration of fat, and it quite accords with the physiology of the thyroid gland that it should be present to such a marked degree in hypothyreosis.

The skin is the largest fat organ in the body. Its deep surface consists of a thick fatty pad, the panniculus adiposus, its glands secrete a great deal of fat, and the horny substance that gives the chief characteristic to its epithelial cells, and to its appendages, the hair and nails, is fatty.

In the faulty elaboration of fat, or of fat producing foods, such as starches and sugars, may be rationally sought an explanation of the phenomena of seborrhœa. In reducing this metabolism to its simplest terms it may be assumed that trouble may arise:

When the fats and carbohydrates are in too great quantity to be properly burnt by a normal intake of oxygen; or

When the intake of oxygen is too little to enable it to properly burn a normal intake of fats or carbohydrates; or

When the production of iodothyronin is too small to properly activate the oxygenizing function.

This last is what occurs in privation of thyroid secretion, and this is the readiest explanation of why so many of the symptoms of hypothyroidism, as seen in the skin, are really the symptoms of seborrhœa. This, however, does not explain the malar flush, or the presence of myxœdema. The phenomena of old age, as observed in the skin, are largely the expression of a slowing down of the oxygenizing processes, and this also is the reason why so many of the integumentary phenomena of old age, and of privation of thyroid secretion, are identical.

As Starling says, a moderate degree of thyroid inadequacy is not infrequent, and he further states that the beneficial effect on the general health, in removing excessive corpulence, and in promoting the growth of hair, which are observed on administering the drug to people of middle life, may be due to the actual replacement of a function that is being insufficiently discharged.¹ This is evidently what occurred in this patient's case. By giving him thyroid extract these oxygenizing processes were re-established to something like

¹ Physiology. ERNEST H. STARLING, 1912, p. 1329.

their normal vigor. After the digestive and bloodmaking functions had been in this manner stimulated, the thyroid gland itself functioned better; the five grain dose of thyroid extract, that at first was only sufficient, became an overdose, and the patient, through over-excitation of the oxygenizing processes, began to consume his fat, and also possibly his other tissues, too rapidly, with the consequent loss of flesh that occurred some months after beginning treatment. It is interesting to note that this evidence of overdose appeared after the summer holiday, when exercise and the exposure to the free air and to the sunshine would naturally excite the chemical changes in his body.

In regard to the dose of thyroid extract, it is wonderful how little is required at times to maintain the physiological balance. Howell states that patients having myxœdema may be kept in perfect health by the administration of from sixty to one hundred and thirty milligrams every three or four days.²

A daily dose fitted to the requirements of the individual must, however, be more in accord with physiology than intermittent ones. Kocher's statements in this regard in cases of total ablation of the thyroid, in which he has had so much experience, are worthy of the most careful consideration.

He says that the uninterrupted administration of thyroid gland preparations by the mouth can prevent the occurrence of the cachexia, and can form a complete substitute for the entire absence of the thyroid gland, and may be continued indefinitely without injury. Such people are as physiologically fit as the lucky possessors of a thyreoiodin factory in their own body. In those who have no thyroid gland, however, symptoms immediately appear if the thyroid preparations are discontinued for only one day.³ Another advantage of the daily dose is its regularity in regard to the habits of the patient. He gets used to taking it as a matter of daily routine, and is much less likely to forget it than if interrupted.

I have never before seen anything like the condition of the gums presented by this patient, but as it improved on the administration of thyroid extract it may be included as one of the phenomena of hypothyreosis.

² Physiology. WM. H. HOWELL, 1913, p. 851.

³ Innere Sekretion. ARTHUR BIEDEL, 1913, p. 196.

LUPUS ERYTHEMATOSUS DIFFUSUS UNFORTUNATELY
TREATED WITH TUBERCULIN.*

By A. RAVOGLI, M.D., Cincinnati.

MISS A. W., aged 24, came to us for consultation on Sept. 8, 1913, for a reddish purple eruption diffused on the face, neck, chest, scalp, arms, legs and feet. She was a well-developed woman, of healthy parents, and had enjoyed good health. She menstruated at the age of 15 and had never had any trouble until recently, when menstruation stopped. For over four months she was under the treatment of her house physician for chronic bronchitis, which, after a while, was found to be, in reality, pulmonary tuberculosis.

The eruption was of an erythematous type, evenly distributed on the face, sparing only the chin. The affected skin showed a slight, thin desquamation. The eyebrows had been lost to a certain extent and the hairs were falling out. The eruption on the scalp consisted of small, round, hæmorrhagic papules, which covered also both auricles, and extended to the neck, and to the shoulders in the back, to the chest in front, forming a large, irregular patch. The same eruption was spread on both arms and hands with some hæmorrhagic patches, swelling, and a cyanotic appearance. A similar eruption was present on the legs and feet.

Our diagnosis was that of lupus erythematosus diffusus—which we considered to be a tuberculide.

The Moro test was applied, with positive results. The Wassermann was negative.

The first treatment advised was a tonic with quinine and nuxvomica internally, and the application of a liniment of oxide and carbonate of zinc on the affected areas. In the beginning, there was some improvement. In the last week of October she was much worse. The patch of eruption on the neck and chest was sore, discharging serum, and she had some fever.

We started out with the idea that we had to do with a tuberculide, due to a tuberculous infection; we came to the conclusion that the only hope was in the use of tuberculin. One ampule of 1/1000 gr. of tuberculin T.R. (from Parke, Davis & Co.) was diluted in 100 cubic centimetres of distilled water, with the addition

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

of a couple of drops of carbolic acid. One syringeful of this solution, 1/100 of a milligram, was injected in the back. The young lady went home. The following day, word was received that she was suffering with high fever and that the face and hands were swollen. The day after, she was seen in bed; the temperature was 104° to 105° F., the pulse 108, respiration 34. The face was red, swollen and œdematous, the eyes closed. In many areas of the eruption, blisters had formed, leaving extensive excoriations, discharging serum. Fever continued in a remittent type, from 101° F. to 105° F., the pulse became 140, there was delirium, and on Nov. 9th she died. The diagnosis was that of tuberculosis miliaris acuta. Post-mortem examination was refused.

Some years ago, we had abandoned the use of tuberculin, on account of another unfortunate case in a lady, a Sister of Charity, who was affected with lupus erythematosus diffusus. She was treated with injections of old tuberculin A., with probably some improvement. One injection of 1/100 of a milligram of tuberculin T.R. caused the fever to rise to 105° F., and she died after two weeks, with the same septic symptoms. It is true that every other remedy had been used and that the only hope was in the tuberculin, but that death was apparently caused by the injection of tuberculin, was the sad fact in this unfortunate case.

In the past we have praised tuberculin as a curative agent, but to-day, after this experience, we intend never to use it again. For diagnostic purposes, as the Moro test, in many obscure cases, its use may throw some light on the diagnosis; and locally it may be used also: but for injection into the general system it is better to avoid its administration. It seems beyond any doubt that it has a tendency to "wake up" the tubercle bacilli and that it may cause a tuberculous septicæmia.

In a general way it may be maintained that tuberculosis is a localized affection, and its manifestations are in relation to the number and to the anatomical importance of the affected organs. The presence of a tuberculous process, together with the formation of toxic substances, causes weakening of the individual's system and diminishes its reacting power.

According to Hollos,¹ latent tuberculous foci have acquired a certain degree of auto-immunity, but through the poisonous elements arising from the bacilli, the sensibility of the general organism is greatly influenced. As a consequence, many symptoms occur in those affected with latent tuberculosis. Often they suffer with headache, vertigo, disturbed sleep, vasomotor and temperature dis-

turbances, sweating, a sense of fatigue, nervousness, obstipation, disturbed menstruation, and the symptoms of Basedow's disease. The formation of the virulent products from the tubercle bacilli is the cause of these peculiar symptoms, observed in a great many cases, and it is difficult, in the beginning, to find out their true cause.

Foci of tuberculosis may be localized in any anatomical region, in any apparatus, in any tissue. The most frequent and the most insidious foci occur in the lungs. Indeed, pulmonary tuberculosis is the most dangerous of all tuberculous localizations.

According to Zieler,² pure toxic skin tuberculoses—tuberculides—seldom occur spontaneously in man. They are the result of tubercle bacilli, either alive or dead, virulent or avirulent, in the organism. In lupus vulgaris there is only a slight degree of virulence, very likely retarded by the histological changes of the surrounding tissues. On the contrary, the tuberculides have to be considered as resulting from a hæmatogenous origin. Orth³ stated that it is not necessary that bacilli be found in all the affected areas, but these alterations are the result of bacilli which are present in other foci of the disease. This is the reason why tuberculous manifestations exist, where the presence of the tubercle bacillus has never been demonstrated. In these cases the manifestations are not due entirely to the presence of the tubercle bacilli, but to the chemical toxic elements which undergo no alterations in the fluids of the organism. While the local changes at the site of the bacilli, through the action of these poisonous diffusible substances, show the alterations caused by both factors together.

Klingmüller,⁴ in a site of an old tuberculin injection, found not only masses of epitheleoid cells in nodules, and Langhans giant cells, but also signs of a typical local reaction, which had been produced by the subcutaneous introduction of the Koch tuberculin A., in which the bacilli are dead. This shows, according to the same author, that the toxins of the tubercle bacillus, although dissolved, when introduced in the skin are capable of producing in the locality the same changes and the same reaction which is produced by the living bacilli. To this statement Jadassohn⁵ objected, stating that the tuberculin could not be perfectly free from corpuscular elements coming from the bacilli. Toxic tuberculoses of the skin may be of hæmatogenous origin; but he finds it difficult to admit them, considering the occurrence of exanthemata following the tuberculin injection. This difficulty, however, is not so important when we realize that tuberculous exanthemata are produced only in tuberculous individuals, and that tuberculin locally produces the above-mentioned effects

only when it finds in the organism tuberculous foci, from which toxic elements are developed. Tuberculin in those who are perfectly free from tuberculosis, although administered in large doses, has no effect whatever; and Hamburger⁶ is strong in maintaining that tuberculin is applicable to those affected with tuberculosis, and not to those free from this disease, in which it has no action.

In the local manifestations on the skin produced by the application of the von Pirquet test, Zieler sees the coöperation of the tubercle bacilli, concealed in the system. In the same way, the reaction which is obtained by the local application of tuberculin on the skin in the Moro test⁷ is considered to be the result of a specific hypersensibility of the skin, due to the presence of tubercle bacilli in the system, which have caused the formation of antibodies in the cells or in the blood. The action of tuberculin, according to Pick⁸ and Daels, would be due to the effect of the toxic elements coming from the dead bacilli, and to that of an endotoxin which is formed in the system, through the action of bacteriolytic substances. Indeed, as Zieler has experimentally shown, the inoculations of tuberculin in the skin do not produce any traumatic bacillary tuberculosis, but tuberculous forms follow the injection of tuberculous substances, only in those organisms which possess latent tubercle bacilli.

Lang⁹ called attention to the fact that tuberculous foci remain for a time apathic, or latent, but they may become pathic or active, and in this way he divides the phases of the disease into pathic and apathic. The immunity against the tubercle bacilli possessed by the skin, is the cause of the latency. For this reason the tubercle bacilli may remain in the lymph spaces of the derma for some time, without showing apparent manifestations. When under favorable circumstances, they become pathic and show up in the form of an infectious exanthem.

It seems that an occasional cause, either of infectious or of traumatic origin, starts the virulence of the tubercle bacilli, causing acute septic symptoms, which are the cause of the fatal outcome. In a case reported by Leiner and Spieler,¹⁰ a miliary tuberculosis of the skin had a chronic and insidious course. The patient suffered an attack of measles, and, fourteen days after, tuberculosis became acute, causing death in four months. The post-mortem examination revealed acute miliary tuberculous infiltration of the lungs and of the meninges.

Willy Schmidt¹¹ reported three cases of lupus erythematosus diffusus, of which each one died with acute symptoms, somewhat resembling those of our two cases. In every one of the three cases,

tuberculosis was present in the system—either in the bronchial glands, in the lungs or in the pleura. In each case there was found an instigating cause which started the acute septic symptoms, resulting in death.

In a case reported by E. Hoffmann¹² and referred to by Schmidt, in a girl suffering with lupus erythematosus of the cheeks, after an injection of 1/100 of a milligram of the old tuberculin, the process spread to the whole body, with high fever, and soon after, signs of pulmonary tuberculosis were discovered. The explanation given by Hoffmann seems to be the most plausible. The tubercle bacilli, latent in the tissues of the organism, are mobilised by the tuberculin injections or are rendered into a condition tending to produce toxins, which generalize the process, and produce active symptoms in the lungs and in the skin, with a general reaction.

Campana¹³ lays great stress upon the septic condition, and also upon intercurrent acute infectious diseases, as influenza or pneumonia, which often end the life of the tuberculous patient. When cavities are formed and purulent septic matter is contained in them, then the action of the tuberculin is more injurious than beneficial. The elevation of temperature, the typhoid-like depression, the difficult respiration and the symptoms of septic infection are due to the tuberculin. The same deleterious condition is brought about by tuberculin injections in the cases of extensive lupous infiltrations, when extending deep into the bones. He claims that all the injurious effects referred to by the earlier experimenters were due to the lack of judgment in the selection of the patients. Although he praises the tuberculin R. as the best remedy in cases of lupus, yet he refers to one case of lupus of the nose, in which an injection of tuberculin R. was given; in this case, after the injection, erysipelas developed, with a rapid spreading of the lupous process, together with severe general symptoms.

The reason for the deleterious effects from tuberculin has been attributed by Capelle¹⁴ to anaphylaxis. Tuberculin has a great tendency to cause anaphylaxis on account of the presence of tuberculo-protein, which produces a passive anaphylaxis. The reaction itself from tuberculin is an anaphylactic process.

MacKee¹⁵ reported a series of cases of tuberculosis and of tuberculides of the skin, which he treated only with tuberculin injections. The results were various and uncertain, the treatment took a long time, many injections were given, resulting in a few changes in the local process. In six cases of lupus erythematosus, two of which were of the disseminate type, in which the von Pirquet test had been

positive, "a long-continued tuberculin treatment failed to produce any discernible effect."

After all these considerations, we find that we have to go back to our first resolution. Tuberculin should be used only for diagnostic purposes, *locally*, as in the von Pirquet and Moro tests, to obtain light on the nature of the disease.

Injections of tuberculin for general treatment, either with tuberculin A. or R. or T.A.F., even in the smallest doses, is a dangerous kind of remedy.

We sincerely hope that the injurious results which we have unfortunately and unintentionally caused by a minimal dose of tuberculin will be a sufficient argument to deter others from employing this remedy.

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DISCUSSION.

Dr. PUSEY said we must all admire Dr. Ravogli's scientific honesty in reporting this distressing result. Of course, we could only surmise what the process was which caused the patient's death, and that we could reasonably conclude that the patient was hyper-sensitive to tuberculin. There was an excessive reaction within twenty-four hours after the injection; this would exclude the reaction from some contaminating infection. So far as he could judge, the cause of death was one of those unavoidable misfortunes which sometimes happened under conditions of excessive sensitiveness to various poisonous substances.

Dr. MONTGOMERY said the patient was possibly tuberculous. With her system already loaded with tuberculin or some other toxin, the superadded amount of tuberculin might have been sufficient to cause her death.

Dr. POLLITZER thought it would be a misfortune unjustly to throw discredit upon so useful a test. In employing tuberculin, the present tendency was to give much smaller doses than one-hundredth of a milligram, and by reducing the dose to one-thousandth or even one ten-thousandth of a milligram, these accidents may possibly be avoided.

Dr. PUSEY said that in certain conditions of anaphylaxis, an incredibly small dose of a substance sometimes produced unfortunate results, and these might occur in spite of the greatest skill and caution.

A BULLOUS DERMATITIS CAUSED BY THE COLON BACILLUS.

By ALFRED POTTER, M.D., Brooklyn.

IT is my desire, in presenting the following case, to contribute something to the aetiology of the pemphigoid group of skin diseases, which have always been a problem to the dermatologist.

M. L., a girl, 22 years old, came to this country from Finland two years ago. Her family history is negative. The patient does not remember ever having had any severe illness. Her menstrual history is normal. The patient has been married one year and was delivered of a normal child one month before the present illness. The pregnancy, labor and puerperium were normal and uneventful. The patient was up and about two weeks after her baby was born and felt perfectly well. Four weeks after confinement, she had a convulsive seizure and was unconscious for one half hour. The attack was preceded by chilliness, a twitching of the muscles and faintness. The patient felt well after her return to consciousness except for a slight weakness and nervousness. A similar attack took place 48 hours after the first one. The family physician was now summoned and he referred the case to the hospital. The case entered the medical service of the hospital three days after her first convulsion, and during her first week's stay in the institution she had one more slight convulsion. A careful examination of the patient failed to

throw any light on the cause of the convulsions. On admission, the temperature was normal. The urine was normal but rather scant in quantity, there being only 650 cc. voided in 24 hours. The girl was rather nervous and the pulse was rapid and of high tension. During the patient's second week in the hospital she developed a slight scarlatiniform erythema on the arms and face, with slight swelling and tenderness on pressure. With the appearance of the erythema, the temperature rose to 100° F. There were no pains in the joints. The tonsils and pharynx were normal and the teeth were in good condition.

Accompanying the rash were slight nausea and weakness. An abdominal examination at this time was negative. The bowels were regular and the urine still negative; 800 cc. were now being passed in the 24 hours. The erythema disappeared in three or four days from the arms but persisted on the face. The patient's condition now became more serious and a bullous eruption appeared on the hands. The patient was then referred to the dermatological service, two weeks after the onset of the first symptom. At this time she had a few scattered bullæ on the wrists, forearms and ankles. The bullæ were from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in diameter, distended with a clear fluid and arose from a healthy skin. No inflammatory halo surrounded them. The mouth and pharynx were not affected. There was also a red and swollen area surrounding the right eye. The temperature at this time was 101° F., pulse 120 and respirations 24. The heart and lungs were normal. An abdominal examination revealed nothing abnormal. An examination of the pelvis showed the pelvic organs to be normal. There were no lacerations, either of the cervix or the pelvic outlet. Bacteriological examinations of smears and cultures taken from the cervix and vagina were also negative. The patient was now passing 970 cc. of urine in the 24 hours. An examination of this showed it to be dark in color, specific gravity 1028, a trace of albumin, 8 grains of urea to the ounce, no casts, a moderate indican reaction, no bile and a few red blood cells. The blood count was as follows:

Red cells, 4,450,000.

White cells, 14,400.

Morphology normal.

Polymorphonuclear cells, 77.75%.

Small mononuclear cells, 16.00%.

Large lymphocytes, 3.75%.

Transitional cells, 1.75%.

Eosinophiles, .75%.

Mast cells, .50%.

Hæmoglobin, 70%. Coagulation time increased. Blood cultures were negative. The first cultures taken from the unaltered blebs on the forearm were sterile. After a second trial, however, cultures from the unaltered blebs revealed a type of colon bacillus with the following characteristics:

A Gram negative bacillus.

Gas and fluorescence produced in neutral red nutrose agar.

Uniform dense cloud in bouillon.

Coagulation of milk in 24 hours.

Acidity and coagulation in dextrose litmus nutrose.

Acidity and coagulation in lactose litmus nutrose.

No change in saccharose litmus nutrose.

Dextrose broth (Smith tube) 33% gas. $\text{CO}_2 : \text{H} :: 1 : 2$.

Agar slant characteristic of colon bacillus.

The growth in all of the above media was rapid. Indol was produced. An autogenous vaccine was prepared from the above organism. The strength of the vaccine prepared was 100 million organisms to 1 cc. of solution.

During the second week in which the case was under my care, the patient's condition became steadily worse. The bullæ spread to the shoulders, buttocks and face. Not more than five or six blebs appeared in any one day. The inflammatory area on the face extended and became tender to the touch. The heart action became weaker and the patient could only be aroused with difficulty. The temperature for the next two weeks ran an irregular septic course, rising to 101°F . or 103°F . for a day or more and then gradually returning to normal, only to ascend again. On the third day after the bullæ appeared, the girl had a severe convulsion, lasting five minutes. There was twitching of the arms and face and rigidity of the lower extremities. These convulsive seizures, lasting a minute or two at a time, occurred at intervals throughout the disease. The pulse was rapid and irregular.

During the second and third week of the illness the patient continued, a good part of the time, in a typhoidal state with restless delirium, moaning and picking at the bed clothes. The eyes were open and staring and the pupils dilated. The tongue was thickly coated and dry. During her rational moments the patient would complain of frontal headache. While the clinical symptoms resembled, in some respects, those of typhoid fever, a Widal reaction was performed on several occasions and returned negative. During this period there was a slight sero-purulent discharge from the eyes. The patient was steadily growing weaker. The eruption progressed

slowly during these two weeks. The old bullæ were drying up and a few new ones appeared each day in new localities. The inflammatory erythema over the right temple remained the same. During the fourth week the patient showed considerable improvement. Very few new blebs appeared and these were smaller in size and more flaccid. The old ones were healing nicely. The inflamed area on the face gradually subsided. The temperature dropped to 99° F. or 100° F. The pulse improved, the patient became more rational and the convulsive movements and twitching of the arms became less frequent. The tongue became less coated and moist at the edges. During the fifth week the patient was perfectly rational. The headache disappeared and the general condition was greatly improved. The skin cleared up rapidly. No new blebs formed and the old ones healed, leaving a pinkish discoloration. From this time on the patient gained in health and strength. Her diet was increased and she was allowed to sit up a short time each day. After a speedy convalescence the patient returned home, apparently well.

The treatment of the case, in addition to the vaccines, was simply eliminative and supportive. The patient was placed on a liquid diet. The urine output was increased to 1500 to 2000 cc. a day by large amounts of water per os. High colonic irrigations were given frequently during the first three weeks. Salol was given as an intestinal antiseptic. Stimulation was maintained by the use of digitalis, strychnine, strophanthus and whiskey. The use of the autogenous vaccines was commenced one week after the appearance of the bullæ. The initial dose was 50 million organisms. Injections were given every fourth day for five administrations. The dose was increased 50 millions at each injection, until it reached 250 millions. This dose was then maintained and the injections were given once a week. In all, eight injections were given.

While I am not prepared to say that the vaccines improved the general condition of the patient, I am confident that the bullæ were checked and the inflammatory condition of the face was benefited by them. After each injection there was a distinct reaction. In less than 24 hours, a few more bullæ would appear and the inflammatory area of the face would extend and become more tender to the touch.

A brief summary of the case shows a healthy young woman, four weeks after a normal labor and puerperium, seized with a convulsion. Several such attacks occurred during the following week. Ten days after the first attack, a scarlatiniform eruption appeared upon the forearms and face, with slight swelling and tenderness. The erythema disappeared in three or four days from the forearms but

persisted on the face over the right temporal region. A bullous eruption next appeared on the forearms and gradually spread to the face, shoulders, buttocks and lower limbs. The bullæ were from $\frac{1}{2}$ to $\frac{3}{4}$ of an inch in diameter and arose from a normal skin with no inflammatory halo surrounding them. New bullæ appeared throughout the course of the disease. The disease ran a course similar, in some respects, to a typhoid fever, with an irregular septic temperature reaching 103° F. The blood cultures and all other findings were negative except the cultures from the bullæ, which showed a bacillus of the colon type. The patient recovered after an illness of six weeks.

As repeated urine examinations were negative and examinations for wound infection were also negative, as well as disease of the tonsils and pharynx, I am of the opinion that the condition was a profound toxæmia of intestinal origin. The eruption would seem to belong to the bullous type of the erythema multiforme group, as the bullæ were preceded by an erythema, although the bullæ were of a true pemphigoid nature. The fact that there were a few erythrocytes in the urine, in the early stage of the disease, would suggest an erythema multiforme of the Osler type, but there were apparently no visceral complications in this case. It is possible, also, that the erythema multiforme eruptions sometimes occurring in typhoid fever may be due, in some instances, to the colon bacillus.

The colon bacillus is responsible for a great many pathological conditions. The list of diseases in which it may be found is very large and includes all the organs and parts of the body, but particularly the intestinal tract, biliary and urinary passages.

After a careful search of the literature, I have been unable to find recorded any case of bullous dermatitis in which the colon bacillus was the ætiological factor. Anthony (*Jour. Cutan. Dis.*, 1912, xxx, No. 3, p. 153) states that he has observed erythema nodosum in the *Bacillus coli communis* infection of the bladder of young girls. A purpura hæmorrhagica is the most frequent eruption to be found in connection with affections of the urinary passages in adult life, although erythema multiforme is occasionally seen in this connection also. Maher (*Med. Rec.*, 1909, lxxv, No. 12, p. 482) reports a fatal case of purpura hæmorrhagica, in which the colon bacillus was cultured from a hæmorrhage of the bladder. In Maher's case, in addition to the purpuric eruption, the patient had a bleb on the middle of the tongue. He died as a result of severe hæmorrhages from all the mucous membranes. Schottmuller (*Febris herpetica, Beitr. z. Klin. d. Infektionskr. u. s. Im-*

munitätsforsch., 1912, Nos. 1 and 4) calls attention to a hitherto apparently unnoticed relationship between infection with colon bacillus of the genitourinary tract in women and herpes of the face, especially of the lips and mouth. He observed the occurrence of typical herpetic eruptions in 50 cases of some form of infection with colon bacillus, mostly cystopyelitis and post-abortive infections. Schottmuller believes that under certain circumstances, colon infections are characterized by facial and oral herpes, which consequently may be of diagnostic significance, especially in pyelitis. As the herpetic eruptions were not associated with invasion of the face and mouth by the colon bacillus, Schottmuller believes the condition was not metastatic in nature, but due to the action of certain toxic products which have special affinities for the tissues involved. In his cases, the herpes did not develop in the course of any special nerves. The blisters were large and the lining of the mouth was frequently affected, suggesting, Schottmuller thinks, that among the various kinds of herpetic eruptions, those associated with certain colon bacillus infections may be found to constitute a special group. Pollitzer (*Jour. Cutan. Dis.*, 1911, xxix, No. 4, p. 209) describes a fatal case of bullous dermatitis, which, in a good many respects, was similar to my own. Pollitzer was at a loss to account for the condition in his patient, after the most thorough investigation. Fordyce (*Jour. Cutan. Dis.*, 1912, xxx, No. 3, p. 128) reports a case very similar to Pollitzer's, except that the lesions were more of an erythema iris type and were not preceded by any eruption. Fordyce's case, like my own, had a discharge from the eyes, showing that there was an involvement of the conjunctivæ. Fordyce's case, like Pollitzer's, died of the disease, and he could not attribute any cause for the trouble, except probably an anaphylactic poisoning.

The case that I have just described has been an extremely interesting study to me, and while the findings in any one case do not prove anything definite, I trust that the data presented have added something to the solution of the ætiology of the bullous diseases.

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PARONYCHIA.*

By HOWARD MORROW AND A. W. LEE, San Francisco.

When considering the subject of paronychia, it is our intention to limit it to an inflammation of the nail-bed and nail-fold due to organisms apart from those considered to be the ætiological factors in lues, tuberculosis, tinea, blastomycosis, etc. It was the unsatisfactory method of routine treatment of this type of paronychia which stimulated us to a consideration of the subject.

Of the 16 cases which we have had the opportunity of studying, 2 were acute and 14 were of long standing and all have been caused, culturally speaking, by the *Staphylococcus pyogenes albus*. Of this number, 12 were females and 4 were males. The females ranged in age from 10 to 60 years. The males were from 30 to 50 years. The limited number of cases here noted would not allow us to draw any definite conclusions as to whether age, sex or occupation bear any distinct relation to the pathological condition. Thirteen of these cases remained as an uncomplicated paronychia, while 3 of them progressed to onychia with exfoliation of the nail. Only in one case did the pathological condition involve the feet, and here all of the toes were affected. Of the hand cases, all the nails were involved only in two instances, and the remainder varied from 1 to 6 diseased nails. As remarked, vocation seemed to have but little ætiological significance. For instance, the worst case we had to deal with was that of a baker, who attributed his trouble to the nature of his work, and the pain was so severe as to incapacitate him for the pursuance of his vocation. All of the finger nails had been involved and the condition had extended over a number of years. One week of the treatment, presently to be described, allowed the man to continue his work without a recurrence of his paronychia. And again, to return to the absence of vocational reference to the ætiological factor of paronychia, we will call attention to the fact that the one case in which all of the toes were implicated was that of a woman whose duties were none other than those of an ordinary housewife. And still further to refer to the same point, we may cite the worst case which we saw, that involved

* Read before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

all the fingers, namely, that of a society woman who was free from all manual drudgery. It is possible, in this case, that the infection came from a manicurist.

Inasmuch as the cases studied varied from 10 to 60 years of age, it does not seem that any one period of life predisposes to paronychial infection more than another. Owing to the fact that only a small number of cases has come under our observation, and further that the great majority was found among females, we are obliged to leave the question of sex influence practically an open one.

Is paronychia primary or secondary? We wish to confine ourselves to the cases studied, and, as mentioned in the beginning of the paper, general systemic infections are to be considered eliminated. In 14 of the cases the condition started about the nails and remained confined to that location until cured. In 2 cases the paronychia was secondary to pyogenic dermatitis on other portions of the body. From the foregoing, therefore, it will be seen that we are unable to determine what the predisposing causes are in this type of paronychia, but in each case it was possible to obtain from the lesions a pure culture of *Staphylococcus pyogenes albus*, and singularly enough, no other organisms grew upon the culture media employed, namely, blood serum and agar. Notwithstanding this experience it is probable that the *Staphylococcus pyogenes aureus* is responsible for a certain percentage of cases.

TREATMENT. For some years we have followed the treatment by ointments, compresses, powders, and, in recent years, by vaccines. A large percentage of cases treated by these measures has given unsatisfactory results, and probably on account of the fact that, aside from vaccines, these applications do not penetrate into the affected areas. In our hands, vaccine therapy did not give the same satisfactory results as the method about to be described. Autogenous and stock vaccines were both employed. The preparation used with the greatest amount of success was a saturated solution of chrysarobin in chloroform. This combination was found more satisfactory than the usual preparation of chrysarobin with a fatty base. The reason for using chloroform as a menstruum is that it has a high tissue penetrating index—the reason for using chrysarobin is that it has a high staphylococcic bactericidal influence. The method of using this solution is as follows: The plica unguis should be raised from the nail and the affected area swabbed with the chrysarobin preparation. This should be done once daily until there is no longer any pus formation. The latter condition usually subsides after a few applications. It must be remembered, however, that chrysarobin occasionally causes an intense dermatitis even after one application, and in such cases this treatment should be pursued with caution. By this method, all of our cases were cured in from 1 to 3 weeks.

DISCUSSION.

DR. CHARLES J. WHITE said he agreed with Dr. Morrow that paronychia was not a particularly common affection. The cases they had seen at the Massachusetts General Hospital were apt to be in Jewish housewives, who were not allowed to use soap in washing their dishes, and the consequent necessarily dirty dish water was probably an ætiological factor in the causation of the affection among them.

DR. RAVOGLI said he had seen many cases of eczema of the nail-beds, which he would not classify as paronychia, because there was no suppuration; only slight oozing and swelling, with the formation of crusts, but not a true paronychia. These cases he had found to prove exceedingly stubborn to treatment. They seemed to be particularly common among typists and women employed in factories. The nail itself was rarely affected, and when it was, the trichophyton was present. He could also recall cases of syphilis where the papules were located underneath the matrix.

In cases of true paronychia, with suppuration, a free incision usually gave good results. As a prophylactic measure he favored the use of tincture of iodine

inserted into the nail-bed, which acted as a disinfectant and killed the staphylococci, and in obstinate cases he applied a salve of diachylon ointment, with ichthyol.

DR. MONTGOMERY said that as to the ætiology of paronychia, undoubtedly many of the cases were not of staphylococcic, but of streptococcic origin. Paronychia often occurred as a symptom of impetigo contagiosa and doubtless was owing to the same virus, a streptococcus. In demonstrating the presence of streptococci in these lesions it was necessary to bear in mind that streptococci were æro-anærobic.

In order to cultivate streptococci from these lesions it was, of course, necessary to get them very early before they were overrun by staphylococci. In cultivating streptococci, Jadassohn made use of solid media, and inoculated with a very fine platinum needle, which he inserted deep down into the media. The narrow hole closed up and excluded the air, and the streptococci grew along the line of infection. Sabouraud used fluid media in a specially constructed attenuated tube so as to exclude the air.

DR. GEORGE HENRY FOX said he was surprised that no one had mentioned the manicure as an ætiological agent in paronychia. This had recently been referred to in the public press, and the question of licensing manicures had been raised on account of the possible danger of infections in connection with their work.

DR. MORROW, in closing, said that in the treatment of paronychia, he had found both iodine and the nitrate of silver quite efficacious in certain cases. The manicure, as a possible infecting medium, he had referred to in his paper.

PURPURA ANNULARIS TELEANGIECTODES.*

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Continued from page 208.

PART THREE.

REVIEW OF THE LITERATURE.

The following review of the literature consists of rather full abstracts of the case reports, both clinical and histological. Important generalizations, discussions, etc., are not included in the review but will be found in Part 2.

* Read in abstract before the 38th Annual Meeting of the American Dermatological Association, Chicago, Ill., May 6-8, 1914.

MAJOCCHI, DOMENICO. An Undescribed Teleangiectatic Dermatitis; Purpura Annularis Teleangiectodes; Annular Teleangiectasia Follicularis: Clinical Study. *Giorn. ital. d. mal. ven. e d. pel.*, 1896, No. 2, p. 242.

History. E. Z., 21 years of age, born in Italy, a working man, came under observation on May 25, 1894. One and a half years previously a rash appeared on his legs; this gave him no discomfort. When 14 years of age he suffered from rheumatic or neuralgic pains in both lower extremities. The pain ceased before the eruption occurred. He had never been able to control the eruption, which continued to spread. The patient denies syphilis, and there was no sign of this disease.

Present Condition. The patient is a healthy, well-built man. The skin is rather dark. The dermatosis is composed of rings of rosy and reddish-blue color and ranging in size from 2 to 20 millimetres in diameter. They are partly isolated and partly grouped together to form special configurations. On the inner surfaces of the legs the rings are composed of red dots placed close together. The central puncta is a pale red, while those at the periphery are dark red. New puncta can be seen developing beyond the periphery. Even the older lesions are composed of reddish-blue dots which do not disappear upon pressure. On diascopic pressure many of the dots remain unaltered, and with the lens they are seen to be composed of capillary blood vessels. The reddish-blue dots are not placed in a hyperæmic field, but are surrounded by normal skin. At the periphery of the older lesions and throughout the younger lesions the dots are perifollicular—a hair can be seen emerging from the centre of the minute lesion. In the centre of the older lesions the hair is absent and the hair follicles cannot be seen. In the centre of many of the rings may be seen pigmentation, the remains of hæmorrhage. This is often broken up into "freckles."

The seat of the eruption is almost entirely localized to the legs, below the knees, especially the internal surfaces. There are a few punctate and annular lesions on the arms. There is no preceding hyperæmia or disturbances of sensation or subjective symptoms of any kind. The internal organs are normal.

The author was unable to make a biopsy in this case, but he possessed some tissue from an infant who had died soon after birth. Among other abnormalities this infant presented annular lesions composed of dilated capillaries and punctate hæmorrhages. These were situated on the lower limbs and the dorsal region. A histological study of this case, which this author considers to be very similar to the disease that he is describing, will be found in his second article.

MAJOCCHI, DOMENICO. Purpura Annulata Teleangiectodes (Teleangiectasia Follicularis Annulata). *Arch. f. Dermat. u. Syph.*, 1898, xliii, p. 447 (Festschrift für Prof. Pick).

In this article Majocchi mentions a case of purpura annularis teleangiectodes seen by him in 1887. The patient was a young man of delicate constitution who gave a doubtful family history, but who showed no signs of hereditary or acquired syphilis. There was a hæmorrhagic eruption with annular formations which produced a very striking picture. Unfortunately the patient did not return for a complete examination, as he promised to do, so that no careful clinical observation was made and no histological report was obtained.

He repeats the history of E. Z., which was given in his first article, published in 1896, and, also gives, in greater detail, the findings in the case of the new born infant also mentioned in the article published in 1896. A synopsis of this case is as follows:

The patient was a new born child which lived but 3 months and which presented several malformations at birth: hair-lip, rudimentary lobe of right ear, absence of the antihelix, the crux helices, the tragus of the same ear, two thumbs on right hand, and the right side of face much smaller than the left side.

The family history was unknown. There were no signs of syphilis at birth nor at any time during the child's short life. At birth the skin was uniformly red, especially on the back where there were, here and there, tiny deep-red or brownish-red spots. In two weeks the general redness of the skin began to pale and soon disappeared. With the paling of the general redness the following lesions were noted: Numerous punctiform, lenticular and striated spots of a deep-red color, no paling on pressure, without exfoliation, and seated chiefly on the back with a few on the chest and limbs.

The individual lesions seemed to combine and produce annular configurations of a diameter of from $\frac{1}{2}$ to 2 cm. Some of the annular lesions were discrete, but many were confluent, producing chains. The centre of the annular lesions was shiny, slightly depressed and slightly pigmented. In all the lesions there was a positive ectasia of the capillaries. The dermatosis developed very slowly, so that at the end of several weeks hardly a single fresh lesion had formed. At the beginning of the third month the child began to fail, developed a diarrhœa, nursed poorly, became cachectic and died after about three weeks.

Histology. At the margin of the annular lesions the most marked feature was the capillary ectasia which was particularly noticeable in the neighborhood of the follicles; even the capillaries of the follicle itself were dilated. The ectasia occurred throughout the true skin. The vessels followed a serpiginous path and depicted constrictions in their course. They were all full of blood, and here and there could be seen a few red cells in the neighborhood of the vessels and an occasional hæmorrhagic focus with here and there a little pigment.

In older portions of the lesion the capillaries were fewer in number, but were enormously dilated and filled with blood. In places, especially in the deep skin, the vessels showed sac-like dilatations. Here, too, the hæmorrhagic extravasation and pigmentation was more pronounced. At this stage the vascular network of the follicles showed a more marked alteration, but the follicles themselves were seemingly not affected.

A most important feature was a slight but unmistakable perivascular, cellular infiltration. This consisted of young round cells and fusiform cells. The epidermis was unaltered.

In the centre of the lesion the epidermis is thinned and the interpapillary prolongations flattened out. The derma is thickened and in places sclerosis is beginning. The hair follicles are very much atrophied. The blood vessels are greatly reduced in number. The fatty layer is also greatly reduced in thickness.

The author now reports two additional cases of the disease.

P. D., age, 22; from the province of Venetia; an employée; duration of eruption, 4 years; the family history was negative.

Past History. When a child the patient had had eczema and he had had, also, lesions that were similar to the present eruption.

The patient was healthy and robust and there were no signs of syphilis.

Morphological Characteristics. The dermatosis took the form of tiny deep-red and brownish-red spots, punctiform or linear, which paled slightly or not at all under pressure. Capillary ectasia could be detected with the unaided eye. The punctate spots arranged themselves in annular configurations ranging in size from 2 to 20 mm. in diameter. They were both discrete and confluent, the latter forming chains and gyrate patches. The centre of the lesions was slightly atrophic, glistening and almost imperceptibly depressed, and there was an absence of hair. In some of the lesions the centre was slightly pigmented.

Topography. The eruption was situated chiefly on the lower extremities, mostly on the anterior and inner surfaces of the legs and dorsa of the feet and was absolutely symmetrical. There were a few lesions on the thighs, and the forearms, and very few in the sternal region and on the sides and back. No biopsy was allowed.

The last case was a man of 25, who had been observed by G. Pini, and the

findings presented to the author for publication. On his legs, especially on the calves, there were many annular and semi-annular formations, consisting of punctiform spots of a deep-red color, some of which paled slightly upon pressure while others remained unaltered. There was a fine vascular ectasia visible. The annular lesions were from $\frac{1}{2}$ to 6 cm. in diameter and were confluent in places. They were numerous on the anterior and posterior surfaces of the legs and were symmetrical. The centre of the lesions was shiny, very slightly depressed and showed an absence of the coarse black hair that was abundant elsewhere. In addition there was a slight wrinkling of the skin. The duration of the eruptions was only a few months and had begun with one circular patch—6 cm. in diameter—on the right calf. There was a little pruritus, but no other subjective symptoms.

MAJOCCHI, DOMENICO. Purpura Annularis Teleangiectodes: A Memoir. *Mem. d. R. Accad. d. Sci. d. Inst. d. Bologna*, 1904-5, ser. 6, i, p. 355 (Tipografia, Gamberini e Parmeggiani, Bologna).

This is a long memoir prepared by Majocchi in honor of Pick's anniversary. It is published in book form (2 vols.) by Gamberini and Parmeggiani of Bologna and can be found in the Scientific Department of the New York Public Library. In this work the author reviews the 5 cases previously reported and adds two more examples of the dermatosis. In addition he enters into a lengthy discussion of the ætiology, morphology, histology, diagnosis, etc., of the affection. The material used in the book was presented at two sessions of the Society—May 29, 1904 and Feb. 12, 1905.

The two new cases are herewith appended.

V. A., male; age, 23; private patient; first observed on Feb. 25, 1903. There was no evidence whatever of syphilis. The patient had been given 30 injections of mercury by another physician, but the hæmorrhagic eruption did not improve. The purpuric affection had existed for 3 months. The only subjective symptom was slight pain in the knees. The patient was a perfectly healthy individual.

The eruption consisted of tiny dark-red spots and annular lesions. The latter were composed of aggregations of the puncta. The lesions did not disappear under pressure. There was distinct capillary ectasia. The centre of the annular lesions was atrophic, yellowish in color and in some instances, wrinkled. Confluence of the rings produced chains of four or five links and various other configurations. The lesions were found mostly on the legs. There were also lesions on the thighs, and a few on the forearms. A biopsy was refused.

G. M., female; age, 35; unmarried; a native of Bologna; a maker of matches; came under observation on Jan. 9, 1904. Family history negative. The patient had passed through a number of surgical operations and had had eczema, facial erysipelas and the diseases of childhood. She was thought to be scrofulous. There was no evidence of syphilis.

The eruption had existed for about two months and first appeared as red puncta in the neighborhood of the knees and was preceded and accompanied by severe rheumatic pains in the articulations. The eruption was chiefly on the lower limbs, mostly on the legs and feet. There were a few spots on the arms and on the body. The lesions consisted of individual dark-red puncta and annular lesions having their margin composed of these hæmorrhagic puncta and capillary ectasia. The annular lesions increased in size by centrifugal extension and appeared to develop more rapidly when irritated by chemicals such as chrysarobin. There was some atrophy. The patient was last seen in August, 1904, at which time most of the lesions had disappeared and those that remained were poorly defined. A careful physical examination revealed nothing remarkable. The patient had taken iodide of potassium previous to the eruption and various anti-rheumatic remedies together with quinine, tonics and bromides during

the course of the affection. The eruption seemed to improve somewhat under the influence of mud-baths.

Histological Examination. Piece of skin removed from the centre of an annular lesion. The epidermis was thinned. The papillæ were flattened out. The arcolar tissue of the derma was attenuated and there were numerous dilated lymph spaces. The collagenous fibres were closely packed together and arranged in horizontal and oblique directions. The elastic tissue in the papillary body had disappeared, but was fairly well preserved in the lower layers. Here, however, it had lost its network arrangement and occurred in horizontal, undulating fasculi, with the fibres rather compact. There were very few blood vessels and these were dilated and surrounded by hypertrophied connective tissue. Very little muscular tissue was present—some of the fibres were atrophic, while others were hypertrophic. The hypoderm was markedly atrophic and contained very few vessels and these were considerably dilated. The hair follicles were markedly atrophic; the sebaceous and sweat glands also showed evidence of the same process.

The most noticeable alteration found was the obliterating endarteritis of the capillaries, especially the deep-seated vessels. A remarkable feature was that there was no active inflammation of the adventitia (esoarteritis). The external coat was somewhat thin. The media on the other hand was thickened and this increase in thickness was due to a separation of the elements instead of a hypertrophy or hyperplasia. The cellular elements, in fact, appeared to be normal. Although it was easy to recognize the boundary between the media and the adventitia, this was not so in regard to the line of demarcation between media and intima. The latter was thickened even to the point of complete vascular obstruction. It was difficult to study the early stages of the endarteritis because in most instances the process was so well advanced that the tissue of the intima appeared to consist of a compact fibrous tissue containing cells which simulate the fixed connective-tissue cells and lined with small flat cells resembling greatly altered endothelial cells. To observe the earliest change it was necessary to study sections obtained from the border of the lesion. Here were found vessels with a new formation of roundish cells under the endothelium. The latter appeared more swollen and more transparent than normal. There was also a hypertrophy and hyperplasia of fixed connective tissue cells in the adventitia. It was noted that the endarteritic process was continuous and progressive in its development—that is, one portion, as would be likely to occur in syphilitic endarteritis. The elastic tissue of the vessel was not altered to any great extent. The vessels were seldom engorged with blood, but there were many areas throughout the derma which contained red cells and pigment.

Piece of skin removed from the hæmorrhagic margin. There was no noteworthy change in the epidermis; it was, perhaps, a little thicker than normal. The rete pegs were preserved.

The derma appeared to be thickened, but this was due to the large number of dilated lymph spaces. The elastic tissue was normal with the exception that the fibres were swollen and somewhat displaced. There was dystrophy of the subcutaneous tissue. In the muscular tissue, both of the follicles and of the derma itself, the cells were separated or dissociated and the muscle band appeared larger than normal. There was also hyaline degeneration and atrophy.

Majocchi here gives a long description of the changes occurring in the follicles. Briefly, the follicular lesions, beginning with a chronic peri-folliculitis, with cellular proliferation, accompanied by ectasia of the vessels, terminate in complete atrophy of the pilosebaceous organs and, later, with sclerosis of the connective tissue of the follicle and the disappearance of the dilated vessels. The sudoriparous glands show about the same changes as found in the centre of the lesion.

Vascular Changes. There did not appear to be a very marked increase in

the number of vessels, but they were widely dilated and tended to produce groups. The vessels did not contain much blood; they were usually empty. There were numerous hæmorrhagic foci scattered throughout the derma—even in the papillæ. This feature was most marked, however, in the deep layers. There was considerable alteration of the vascular walls, particularly in the deep cutis and hypoderm, which ranged all the way from very slight modifications to almost complete destruction of the vessel. The author enters into very minute details regarding the histopathology of the vessel changes. A perusal and analysis of the description yields the following: The process often started as an œdema of the adventitia with swollen and separated collagenous and elastic fibres. On the other hand the original alteration at times seemed to be in the intima. In any event the media was the tunic most affected—first by œdema with separation of the muscle cells and formation of spaces, which produced considerable thickening and, later, by hyaline degeneration. The intima usually lost its endothelial lining, but when endothelial cells were present, they were detached, swollen, granular, irregular and with nucleus in kariolysis. Sometimes the degenerative change was uniform and involved the entire circumference of the vessel, but often it was limited to one part of the vessel, producing an irregular outline to the capillary or producing small aneurismal sacculations. These tiny aneurisms were seen to begin in the intima. At first a slight depression was seen in the lumen which was caused by atrophy and detachment of the endothelium at this point. This was followed by atrophy and degeneration of the media with consequent outward expansion. The adventitia offered little resistance on account of previous relaxation, so that only weakened muscle cells and elastic fibres maintained the integrity of the capillary. It was the rupture of these aneurisms that produced the hæmorrhages.

The author states that the vascular changes in purpura annularis teleangiectodes have nothing in common with syphilis. He points out that syphilitic endarteritis is accompanied with more or less esoarteritis and panarteritis, conditions that have never been met with in purpura annularis teleangiectodes. At times the ectatic vessels of one disease might stimulate those of the other affection, but the main point brought out in differentiation was that in syphilis the ectasia was preceded and followed by endarteritis, esoarteritis and panarteritis, while in purpura annularis teleangiectodes the changes consisted in a softening of the tunics through hyaline degeneration, particularly of the media.

The author next compares the histological findings of this case with those of the infant reported in a previous paper:

1. The ectasia was more marked in the infant.
2. In the infant the capillaries were engorged with blood. In the other case the dilated capillaries were usually empty.
3. There was a remarkable ectasia of the lymph vessels in the adult, while this was largely wanting in the infant.
4. In the adult there was endarteritis in the atrophic central area and aneurismal sacculations in the vessels at the margin. These features were practically, if not entirely, absent in the infant.
5. In the adult there was hyaline degeneration and dissociation of the muscle cells of the derma and follicles. While the muscular tissue was involved in the infant it was secondary to the atrophy of the pilo-sebaceous organs and the muscle cells never underwent hyaline degeneration and complete disintegration.
6. In the adult the hæmorrhagic foci were usually connected with a ruptured aneurism, while in the infant the foci were around dilated, engorged capillaries with thinned walls.
7. In the infant the adipose tissue was atrophic in the centre of the lesion, but not at the margin. It was atrophic and otherwise altered in both locations in the case of the adult. Also the atrophy was accompanied by an increase in young elements, between the atrophic fat cells. This was not so in the case of the infant.

On the other hand there were many features in the two cases which were identical in nature:

1. Distinction between the two zones—atrophic and hæmorrhagic-telegiectatic.
2. Atrophy of the pilo-sebaceous follicles and the glandular organs.
3. The degree of pigmentation.
4. Hæmorrhages.
5. Perivascular small-cell infiltration in the infant—hypertrophy and hyperplasia of the fixed cells around the vessels in the adult with no proliferation of a perithelial character.

The author considers the cases to be identical both histologically and clinically and believes that the differences can be explained by the age of the patient, the duration, severity and course of the affection, and the exact time that the histological examination was made in respect to evolution and involution of the affection.

MAJOCCHI, DOMENICO. New Clinical Observations on Purpura Annularis Teleangiectodes. Transactions Seventh International Congress of Dermatology and Syphilology, Rome, 1912, p. 818.

In this article Majocchi very briefly reports six new examples of the disease as follows:

Case 1. A. N., age, 20; bachelor; worked in a type-foundry. The eruption was on the legs and thighs from the ankles to the buttocks, with a few lesions on the forearms. There was a symmetrical distribution. The disease lasted from August, 1904, to November, 1905, during which time there were remissions and exacerbations. A biopsy was made in this case, one of the annular lesions being removed. There was no evidence of syphilis nor of tuberculosis.

Case 2. D. B., age, 18; male; single; a musician. On Nov. 20, 1905, the first annular lesions developed on the legs. From December, 1905, to March, 1906, the eruption spread over the legs and thighs to the buttocks. From March to June, 1906, the dermatosis was at its height of development and did not increase. After June some of the smaller spots disappeared. Sulphur, mud and hot baths were prescribed. In January, 1907, there were still a few pale spots on the thighs and buttocks; elsewhere it had completely disappeared, leaving no trace. Altogether the eruption had lasted 14 months. No syphilis nor tuberculosis.

Case 3. N. N., age, 32; an artilleryman; single; came under observation on July 6, 1906. The duration of the eruption was 2 months. It was symmetrically situated on both lower limbs. There was no tuberculosis nor syphilis.

Case 4. M. N., age, 32; a laundress; married; came under observation on March 22, 1907. The duration of the eruption was 3 months. It was symmetrically situated on the dorsa of the feet, the legs and the thighs with a few spots on the forearms. The lesions were mostly annular. The woman was healthy in every respect. Syphilis and tuberculosis were excluded. The patient did not remain under observation.

Case 5. E. M., female; single; came under observation on April 18, 1910, through the courtesy of Dr. Zoccoli. The duration of the eruption was 6 months. The dorsa of the feet, the legs and thighs were affected. There were a few lesions on the flexor surfaces of the forearms. She was somewhat obese. One sister had died of peritonitis which was thought to have been of tuberculous type. The dermatosis consisted of hæmorrhagic-telegiectatic spots and annular lesions, some of which were discrete while others combined to form chains possessing up to 9 links. The dermatosis was in full activity 10 months later. There were no signs of syphilis nor of tuberculosis. The patient failed to remain under observation.

Case 6. G. L., age, 18; female; domestic; single; came under observation

on September 25, 1911. The duration of the eruption was 5 months. There was a great deal of pain in the legs, especially the knees. The eruption was symmetrically distributed over both lower limbs, having begun on the inner surfaces of the thighs. The trunk and upper limbs were free. The eruption consisted of punctiform and lenticular, hæmorrhagic-teleangiectatic spots, with many discrete and confluent annular lesions. The confluent lesions often produced pretty patterns. The Wassermann and von Pirquet reactions were negative, although one of the scarifications became very slightly erythematous. The woman was in good general health. A biopsy was performed on one of the annular lesions.

The author next discusses the morphology, topography, evolution, involution, ætiology, etc., of the dermatosis.

The histology of the lesions removed from the two cases published in this paper agreed with those of former publications, and were as follows:

In the centre of the annular lesions the epidermis was somewhat attenuated and the rete pegs were lost.

In the derma there was dilatation of the lymph spaces and in the pars papillaris there were conical or roundish elevations of the derma due to retraction of the connective tissue.

The non-stricted muscles, follicular and diagonal, were enlarged and deformed through œdema. In places the muscle cells had a homogeneous appearance, while in others there was complete atrophy.

The subcutaneous tissue was atrophic. The pilosebaceous apparatus was also atrophic, while the coil glands were rather well preserved, although reduced in volume and separated from the surrounding connective tissue.

On account of the loss of the papillæ the circulation of the derma was much reduced. All through the derma were dilated vessels some of which were full of blood. The most marked vascular alterations were noted in the deep derma and in the hypoderma. There was an endarteritis obliterans in divers stages of development, even, in some instances, causing complete obliteration of the lumen through proliferation of the intima. The media was usually of normal thickness, although at times it was thickened on account of the relaxation of its component parts. The adventitia, formed of rather compact connective tissue, appeared to be rather attenuated and rarely infiltrated with a few round cells.

In the margin of the lesion, especially the deep vessels, changes of a different character were noted. Here the media was especially involved, being thickened. The apparent hypertrophy, however, was due to œdema and relaxation, and this in turn was followed by hyaline degeneration. The changes in the media seemed to be compensated for by the perseverance and resistance of the external elastica. At points where the vessels were markedly weakened aneurismal dilatations occurred and these often ruptured, giving rise to hæmorrhage. Hæmorrhagic foci were also noticed in the neighborhood of ectased vessels and were due to erosions.

CITERNESSI, P. Histological Changes in Certain Hæmorrhagic Dermatoses. *Gazzetta degli ospedale e delle cliniche*, Dec. 3, 1899, p. 1533.

In this article Citernessi, working in Majocchi's clinic, reports on the case of the infant monstrosity given in detail in Majocchi's communications.

BRANDWEINER, ALFRED. Purpura Annularis Teleangiectodes. *Monatsh. f. prakt. Dermat.*, Nov. 15, 1906, xliii, No. 10, p. 529.

Case 1. F. H., male; 16 years old; a typesetter; first came under observation on March 31, 1905.

History. The lesions on his extremities had been present for about two months. They first appeared on the lower extremities. For two or three weeks

previous to this the patient complained of slight dragging pains in both the knees and wrists. There had been no subjective symptoms in connection with the eruption. He had always been healthy. He denied syphilis. There was no evidence of any hereditary disease.

Status Præsens. Internal organs perfectly normal. Blood normal.

The eruption is located on both the upper and lower extremities. It is most marked on the extensor surface of the lower limbs. In size the lesions range from a cent to a silver dollar. They are circular in form and of a yellowish brown color. The border contains pinhead-sized, deep-red spots, for the most part discrete, but occasionally grouped in clusters. Occasionally these clusters extend beyond the margin. A few such spots can be seen in the centre and throughout the lesions. These dots retain their color under glass pressure, hence are minute hæmorrhages. The centre of the lesion is lighter in color than any other portion, but there is no evidence of atrophy or of loss of hair.

On the extensor surface of the upper third of the right thigh there were two plaques the size of a crown-piece. There was a similar lesion on the lower third of the same surface. There was one patch of the same size on the anterior surface of the left thigh. A larger lesion was seen over the anterior surface of the right tibia and two smaller ones were located on the right calf. Several dime-sized lesions were situated on the left calf. On the flexor surface of the left thigh there was a palm-sized lesion and a dollar-sized patch on the same surface of the corresponding thigh. On the flexor surface of each forearm was a row of three crown-sized lesions. Some of the lesions were of a faint yellow color and were very indistinct, while others were of a darker color and contained numerous dark-red spots. There was no sign of teleangiectasia, nor was there any dermatography.

April 13, 1905. New lentil-sized lesions on extensor surfaces of both thighs. These consisted of small clusters of light-red puncta which retained their color under pressure. There was no pigmentation.

April 16, 1905. The recent patches have increased somewhat in size through fresh hæmorrhages. The circular configuration is not well defined. The centre of the lesion has changed from an intense red to a brownish-red. The older patches have faded and some have disappeared. The original dark-red spots are paler, more confluent and in many places have become lost in the diffused pigmentation.

April 18, 1905. A few new patches have appeared on the left knee.

April 20, 1905. Patient discharged at his own request.

The patient was again seen in July, 1906. In January, 1906, he had had a few new lesions which soon disappeared. When examined in July there was not the slightest trace of the former lesions with the exception of a faint yellow patch on the left forearm.

Case 2. W. A., female; 20 years of age; married; came under observation on June 21, 1906.

Family History, negative.

Past History. Had always been healthy. Contracted syphilis one year previously. She was treated with 30 injections in August, 1905, for specific lesions in the mouth and on the genitals. In April, 1906, she received 3 injections of mercury salicylate. She had had the present skin affection for 2 months. Since that time she had felt weak and without energy. Within the last year she had lost over 13 pounds in weight. Just previous to the appearance of the eruption she complained of joint pains. The lesions first developed on the lower limbs.

Status Præsens. Internal organs normal. Blood and urine normal.

There were a few evident signs of syphilis. The non-syphilitic eruption was seen only on the lower extremities with the exception of the areas beneath both breasts where there was a linear lesion composed of minute, brownish-red spots. On the posterior surfaces of both lower extremities, but most abundant in the

left popliteal space, were areas of indistinct yellowish pigmentation. These varied in size from a dime to a palm. The former were circular in shape. Many of the larger lesions were poorly defined. Some of them possessed a pale, yellowish-brown centre through which were scattered a few dark-red spots. These spots were very numerous at the margin of some of the lesions. None of the lesions were sharply defined. In a few places there were clusters of dark-red puncta which were not confluent and which were not associated with pigmentation. In all instances the puncta failed to lose their color upon pressure. On the buttocks there were several linear lesions similar to those occurring under the breast. There was no dermatography.

After two injections of the salicylate of mercury all syphilitic symptoms disappeared.

There were no new patches and the red puncta were turning a brownish-red.

July 9, 1906. Several lesions had faded perceptibly. The dots were fewer; many had disappeared without leaving pigmentation.

July 14, 1906. The patient had now received four doses of the salicylate of mercury. There were no symptoms of syphilis. The non-syphilitic eruption had faded considerably. The red points had turned a brownish color and many of them had disappeared.

Case 3. S. J., 19; clerk; first came under observation on July 3, 1906.

Family History. One brother had died of meningitis at the age of $2\frac{1}{2}$ years, otherwise the family history was negative.

Past History. When about 5 years of age the patient suffered from scrofula. The skin affection was of 2 months' duration. It was not preceded by subjective symptoms. It first appeared on the thighs, then on the legs and arms. There was some itching and slight muscular pain. The patient denied syphilis.

Status Præsens. There was mitral insufficiency. All the other organs and the blood and urine were normal.

Right Arm. At the elbow there was a silver-dollar sized, circular patch. The centre was of a slate gray color. Around this there was a rim, 1 cm. broad, of a brownish hue in which were a number of deep-red puncta which did not pale on pressure. A few such dots were in the centre which did not show signs of atrophy or loss of hair. The dots did not touch each other, but occasionally occurred in clusters which extended beyond the edge of the lesion. At the upper edge of the lesion there were indistinct, pale-red nodules, the size of a hemp-seed, which paled on pressure. Near the internal condyle there was a bean-shaped, indistinctly defined spot, which consisted of a cluster of brown puncta. There were a number of pigmented areas containing the red dots on various parts of the elbow and one lesion, 3 by 2 cm., on the middle of the flexor surface of the forearm.

Left Thigh. Here there were lesions similar to those found on the arm. The patches, however, were fewer and less well defined, occasionally only a diffuse brownish pigmentation of various shapes and sizes. But, here, too, at the edges of the lesions, one could often see the red or brownish-red dots.

Right Leg. The lesions were most marked in the neighborhood of the knee, especially in the popliteal space. The largest ones were the size of a crown-piece. Smaller ones were noted on the thigh, nates and calf. They were all yellowish-brown in color and contained, especially at the margin, red or brownish-red dots. They were imperfectly circular in shape. The pigmented area merged imperceptibly into the normal skin and not infrequently the red puncta extended beyond the margin of the lesion. There were similar patches on the left leg and nates. On the inner surface of the thighs there were several linear lesions—2 to 3 cm. long and $\frac{1}{2}$ cm. wide.

The eruption remained practically unchanged during the period of observation. Sometimes tiny clusters of red puncta would appear, changing in 8 or 10 days to a yellowish-brown. The puncta would then gradually disappear and a diffuse,

yellowish-brown, poorly defined pigmentation would result. Similar changes were observed in the old foci. There was no dermatography.

Histopathology. The epithelium, appendages and elastica were practically normal. The pathological changes were observed in the blood vessels of the papillary and subpapillary strata and their vicinity. The capillary loops of the papillary body were markedly enlarged and distended with blood. In many places the ascending branches from the subpapillary plexus could be clearly observed throughout their entire course. The larger and smaller vessels of the subpapillary stratum were all affected in the same way. Everywhere there was marked vascular ectasia and overdilatation of the dilated vessels. There was a slight perivascular infiltration of round cells and red cells could be seen in the connective tissue. They were few in number and widely distributed, which pointed to diapedesis rather than free hæmorrhage. There was some deposit of hæmatin. The vessels surrounding the hair follicles and glands were similarly affected. In the subcutaneous tissue the vessels, for the most part were normal; only here and there, in those portions near the derma, a slight ectasia and hæmorrhagic infiltration could be noted.

BRANDWEINER, ALFRED. Purpura Annularis Teleangiectodes. *Arch. f. Dermat. u. Syph.*, 1910, ciii, p. 366. Verhandl. d. Wien. dermat. Gesellsch., Sitz., Feb. 23, 1910.

The author presented a boy of 11 years who had purpura annularis teleangiectodes. The eruption was of only 3 weeks' duration. The arms and legs were chiefly affected, although there were lesions in the axillæ and on the neck. The lesions ranged in size from a penny to a silver dollar. The centre was normal or slightly pigmented, while the periphery was teleangiectatic and depicted dark-red hæmorrhagic dots. There was no atrophy. On the mucous membrane of the left cheek there was a penny-sized, annular lesion, consisting of the same elements as those found in the skin lesions. There were no subjective symptoms.

BRANDWEINER, ALFRED. Further Studies Concerning Purpura Annularis Teleangiectodes. *Dermat. Wchnschr.*, 1912, lv, No. 42, p. 1291.

This is a long article, in which the author discusses the various characteristics and features of the disease, refers to his previously reported cases and adds the detailed report of two new observations.

Case 1. F. W.; schoolboy; age, 14; first came under observation on Feb. 14, 1910; referred to Brandweiner by Prof. Finger for research.

The eruption was of 3 or 4 weeks' duration and there had been no subjective symptoms whatever. The location of the eruption was chiefly on the arms, in the axillæ, with a few lesions on the lower limbs.

The separate patches were composed of innumerable punctiform hæmorrhages situated close together. The lesions varied in size from a lentil to a silver half-dollar. The larger lesions were annular in shape, with the skin of the central part quite normal in appearance or slightly pigmented. The margin was composed of the hæmorrhagic dots and, therefore, was red in color. There was no infiltration. Strong diascopic pressure caused only a few of the red puncta to disappear. When the lesions were scratched there appeared at once, both in the centre and at the margin, deep-red puncta, which did not disappear upon pressure.

All the internal organs, the urine and the blood were normal.

On Feb. 21, 1910, the eruption was unchanged, but on the mucous membrane of the left cheek there was an annular lesion the size of a penny, consisting of hæmorrhagic puncta.

Feb. 28, 1910. Injection of 0.75 mg. old tuberculin in the right forearm. Feb. 29, 1910. Considerable reddening and swelling at point of injection. No

general reaction. March 1, 1910. Local reaction disappearing. March 5, 1910. Exanthem about the same. Few plaques, somewhat more yellowish-brown. Mucous membrane lesion paler. March 9, 1910. Injection repeated. March 10, 1910. Some febrile reaction—highest temperature, 38.1° C. Marked swelling and redness at point of injection. The lesions on both arms are redder than before, the change in the injected arm being more pronounced than in the other limb. The lesions on the other parts of the body remain unchanged. The mucous membrane lesion has disappeared. March 12, 1910. Temperature normal. Eruption fading. Local reaction disappearing. March 21, 1910. The lesions on the arms have almost entirely disappeared. No change in lesions of lower limbs. March 22, 1910. Injection of 1.5 mg. old tuberculin in right forearm. This was followed by a mild febrile reaction, but there was no "flaming up" of the old lesions. April 11, 1910. All the lesions have disappeared, without a trace being left, and the patient was discharged as cured.

Histology. Case 1. The epidermis was normal. There was a perivascular infiltration of lymphocytes and connective tissue cells in the papillary body. There were a few extravasated red cells and some pigment in the neighborhood of the vessels. The capillaries were not markedly dilated. In the subpapillary layer the vessels showed the same changes, excepting that the infiltration was a little more marked.

The vessel changes were most marked in the deeper layers of the derma. They were surrounded by a proliferation of lymphocytes and there was a proliferation of the elements of the adventitia to quite a considerable degree. The media was fairly homogeneous without being thickened. A contraction of the vascular lumen was not noted. The vessels of the appendages and the veins as infiltration of lymphocytes and connective tissue cells in the papillary body. There was no direct connection between the vascular dilatation and the hair follicles. The collagenous tissue in the upper part of the derma was œdematous and moderately sclerotic. In the lower layers it was normal. The elastic tissue, where the collagen was sclerosed, was somewhat granular and fragmented; in the infiltrated areas it was absent.

Case 2. Sp.; male; single; age, 18; student; first came under observation on Oct. 7, 1911. The family and past histories were not significant—no tuberculous or syphilitic history. The duration of the eruption was 3 weeks. There had been no subjective symptoms. The internal organs, urine and blood gave negative findings. The Wassermann reaction was negative.

On the trunk, the flexor and extensor surfaces of the entire right arm, on the flexor surface of the left upper arm, here and there on the calves and especially numerous in the axillæ and about the elbow and knee joints and the inner surfaces of both thighs, there were reddish-brown and brown patches ranging in size from a lentil to a silver half-dollar. There was no infiltration nor was there any pruritus. The reddish-brown lesions were composed of tiny red spots, which did not disappear on pressure. The patches were not particularly well defined—gradually merging into the normal skin. The lesions were round, oval, often irregular, and in many places there was a resemblance to a macular syphilide. A few of the larger plaques were irregularly striated, while a very few were annular. The annular lesion contained normal skin in the centre. A few linear lesions were present. There were a few brown plaques, the remains of former lesions. On the extensor surfaces of the toes there were numerous pinhead to hempseed-sized warty excrescences, and the toes and feet were of a bluish color. This was possibly due to a previous frost-bite. The warty lesions were thought to represent angiokeratoma Mibelli.

Scratching or vigorous rubbing of the lesions caused redness and the immediate formation of red puncta, which did not disappear under pressure and, therefore, were thought to be hæmorrhagic. The same phenomenon could be produced in the normal skin. There was a moderate degree of dermatophy.

The von Pirquet reaction was negative. On Oct. 14, 1910, 1 mg. of old tuberculin was injected into the left forearm. On Oct. 20, 1910, there had been no local or general reaction. The eruption was disappearing. On Nov. 3, 1910, a second injection of old tuberculin was administered, from which there was no local or general reaction. Radiographs were taken of the long bones, but no syphilitic or tuberculous changes were observed. On Nov. 6, 1910, the eruption had almost disappeared. The angiokeratoma remained unchanged. A few weeks later there was no trace of the purpuric eruption. The patient was last seen on July 1, 1912. In the 10 months there had been no return of the eruption, and it was no longer possible to produce lesions artificially.

Case 2. The epidermis was normal. The papillary body was well developed, its papillæ were somewhat œdematous, elongated and broadened. The vascular changes in this case were less marked than in the first case. There was no dilatation. There was a perivascular proliferation of lymphocytes and connective-tissue cells of the adventitia. There were a few red cells in the areas of infiltration and lying free in the derma. The collagenous tissue in the upper part of the cutis was a trifle œdematous and slightly sclerotic. In the deeper layers it was normal. The appendages were unaffected. The entire process appeared, compared with Case 1, to follow an analogous but less intensive course and to have its seat in the uppermost portions of the cutis.

UNNA, P. G. Letter to Brandweiner. *Dermat. Wchnschr.*, 1912, lv. p. 1291.

"Your remarks in the work on purpura annularis teleangiectodes, that glass pressure did not cause bloodlessness in all angiectasia, interested me personally very particularly, as I had long given this phenomenon special attention and was very pleased when you went thoroughly, both clinically and anatomically, into this too little observed fact; I had only been able hitherto to observe it clinically and hence published no remarks about it. I would point out to you that in my diascopy I said, as early as 1893 (*Berl. klin. Wchnschr.*, No. 42), that strong diascopic pressure often requires a minute, in order to cause disappearance of the last trace of *deep vascular repletion*, and in my *HISTOPATHOLOGY* (1894, p. 921), that *only with strong* diascopic pressure will one succeed in causing the disappearance of the papillary varix. I explained it thus to myself and to my students: The first pressure of the gently applied diascop only empties the papillary body, while that is compressed between the diascop and the cutis, and partially voids the horizontally lying vessels at the lower margin of the cutis (entirely so when there is a bone beneath it). But strong pressure even will never empty the almost perpendicularly ascending or vertically situated enlarged vessels, the blood column will be only pressed downward, but the red point remains. If one continues to press, even for a few minutes, the texture of the collagenous tissue gives way, the fibres separate, the ascending blood columns twist diagonally, then horizontally, and may finally be completely emptied by the diascop. I gained the impression that this might actually be so through diascopy of capillary varices and rosacea of the face. Yet this hypothesis lacked histological confirmation and I should be much interested to hear how you elucidate this at first paradoxical phenomenon, and finally can account for it through excision. In any case, you are perfectly right in saying that it is not at all so easy as most think to distinguish between angiectasia and hæmorrhage.

"It appears to me not impossible that in purpura annularis teleangiectodes the phenomenon that arises through scratching, but may also be spontaneous, of hæmorrhage-like points (dots?) may perhaps be explained thus: that the pressure of finger or diascop does not empty, but merely bends the almost perpendicularly ascending capillary loops. In this case, the replete blood vessels—just because they cannot be emptied—must remain clinically as dark-red points."

VIGNOLO-LUTATI. A Case of Purpura Annularis Teleangiectodes. *Giorn. ital. d. mal. ven. e d. pel.*, 1909, xliv, p. 282. Soc. ital. d. dermat. e sif., Rome, Dec. 16-19, 1908.

M. G.; age, 11; male. Father and sister died of pulmonary tuberculosis. Patient himself had always enjoyed good health. The duration of the eruption was 2 months.

The eruption was bilateral and rather symmetrical, and was situated on the legs and buttocks. Morphologically, it consisted of punctiform and lenticular spots of a livid-red color, some of which disappeared under diascopic pressure, while others became slightly paler. The spots were for the most part follicular and were grouped to form complete and incomplete annular figures, which ranged in size from 1 cm. to 1½ cm. in diameter. The skin enclosed in the annular lesions did not show atrophy, desquamation or pigmentation. There were, also, hæmorrhagic patches as large as a penny that did not change at all under pressure. There was no infiltration nor were there any subjective symptoms. The author believes that the absence of atrophy can be explained by the short duration of the affection, and the fact that he was able to follow the case for a period of only 3 months. A biopsy was not performed.

VIGNOLO-LUTATI, KARL. Purpura Annularis Teleangiectodes. *Arch. f. Dermat. u. Syph.*, 1912-13, cxiv, p. 303.

L. F., male, 24 years of age, single, tailor.

Family history. One brother died of tuberculous meningitis; 3 brothers living, but of delicate constitution.

Past history. Largely negative. In Spring of 1910 had pain in knees, shortly after which a ringed eruption appeared on lower extremities. This spread over lower limbs, but not to other parts of body.

General examination. In rather poor general health, but no organic lesions. Wassermann negative. Blood count normal.

Description of eruption. Bilateral, almost symmetrical arrangement; confined to lower extremities (buttocks, thighs, legs, feet). The individual lesion was a punctate to lentil-sized spot, having a pink, livid-red, or yellowish-red tinge. The color in places disappeared under diascopic pressure, in other places became paler and in other locations assumed a yellowish hue. The spots were both isolated and grouped to form circles. The annular lesions frequently coalesced to form gyrations. The inside diameter of the circles varied from 1 to 2 centimetres. In some the skin had a normal appearance; in others it was slightly red; sometimes scaly; and sometimes tinged with a yellowish pigmentation. Many of the lesions depicted slight atrophy and alopecia. An examination with the lens showed the individual lesions to be follicular. The equal distances between the puncta also demonstrated this fact. There was no appreciable elevation nor infiltration. There were no subjective symptoms. The mucous membranes were normal. The author observed partly circular lesions develop into complete annular lesions by the development of new puncta, but he was unable to observe the conversion of a single punctate lesion into an annular configuration. The eruption was chronic.

Histology. An annular lesion, having an atrophic centre and a hæmorrhagic edge, was excised. In the centre of the lesion there was a marked thinning of the epidermis with loss of interpapillary prolongations. The papillary layer was somewhat compact. The collagenous bundles in the reticular layer were to some extent torn apart. There were a few stellate and spindle-shaped connective-tissue cells. Elastic tissue was reduced in the papillary layer, but was preserved in the deeper layers. The hair follicles, sebaceous glands and smooth muscle fibres had disappeared. There were a few coil glands, but these were distorted. The subcutaneous fat tissue was atrophic.

Blood vessels were nearly absent in the upper papillary layer. They were much

reduced in number throughout the entire derma. The deeper vessels showed interesting changes. There was an obliterating endarteritis, developed especially at the expense of the intima. The adventitia did not apparently participate actively in the process because the signs of an exoarteritis were missing. The outer wall was thinned. The tunica media was of normal thickness or looked thickened in places where it was composed of bundles of loose instead of connected muscle bundles. On cross section the intima, which was not well demarcated from the media, was so thickened that in places the vessel lumen was reduced to a triangular or elliptical slit. In other places complete obliteration occurred. The narrow lumen was lined with flattened and protoplasmically altered endothelial cells. The newly formed intima consisted principally of fixed connective-tissue cells. There were no red cells or blood detritus in the vessels. Orcein demonstrated that the inner elastic membrane was reduced to a few fibrils or was entirely absent.

At the margin of the lesion the epidermis was for the most part thickened and the interpapillary prolongations were preserved. The derma was markedly œdematous. The follicles and glands were preserved, but were œdematous and showed evidence of beginning degeneration. There was, in addition, a perifollicular proliferation of connective-tissue cells. The most marked changes were observed in the vessels. There was a pronounced dilatation and many of the capillaries were filled with red cells. There was a moderate perivascular proliferation of connective-tissue cells. There was a loosening of the adventitia. The media, in places, appeared thickened, but this was due to the fact that the muscle bundles were less compact. Here, also, there was hyaline degeneration. Occasionally small aneurismal sacs (miliary aneurisms) could be plainly seen. These consisted of a thin sacculatation of the tunica media. Free hæmorrhage into the connective tissue was noted.

HAMMER, F. A Case of Purpura Teleangiectodes. *Dermat. Zeitschr.*, 1905, xiii, p. 724. Report of the 4th Session, Stuttgart, Sept. 19, 1906.

This is a case of an eruption of small red spots on the face without subjective symptoms. No details are given.

KREN. A Case Answering to Majocchi's Description of Purpura Annularis Teleangiectodes. *Arch. f. Dermat. u. Syph.*, 1907, lxxxvii, p. 435. *Verhandl. d. Wien. dermat. Gesellsch.*

The patient, a waiter, 30 years of age, had suffered for 5 years with what appeared to be a macular eruption on his extremities. The separate efflorescences represented teleangiectatic spots, ranging in size from a lentil to that of a silver dollar. They disappeared, for the most part, under glass pressure, while a few of them assumed a yellowish-brown tinge. The centre of the older lesions showed slight atrophy and no teleangiectasia, while the latter was plainly perceived at the border. In this way a ringed lesion was produced. In some of the patches the lanugo hairs were missing in the centre, so that there was clinical evidence of follicular atrophy.

ABNDT. Purpura Annularis Teleangiectodes. *Dermat. Zeitschr.*, 1907, xiv, p. 517; *Berl. dermat. Gesellsch.*, May 14, 1907.

The patient was a neurasthenic male, 50 years of age. The eruption had been present for 6 years, and began as pinhead-sized, red macules, with the subsequent formation of annular lesions. There had never been any subjective symptoms.

The eruption was symmetrical, and with the exception of one annular patch on the right buttock, was limited to the legs. Here there were more or less well-defined round, oval, or irregular patches, some of which were as large as the palm of the hand. They were brownish or yellowish-red in color. The patches, on close

examination, were seen to be composed of innumerable pinpoint to pinhead-sized, round dots, of a dark-red, brown-red or yellowish-brown color, which did not pale under pressure. The intervening skin was of diffuse yellowish-brown hue, which paled but did not disappear on pressure. Besides these punctiform hæmorrhagic primary efflorescences, there was a slight teleangiectasia. A few hæmorrhagic spots could be discerned just beyond the periphery of the annular lesions. Many of these tiny dots were pierced by a hair, but there was no real evidence of follicular involvement. The annular lesions showed the skin in the central part to be quite normal. The lesions gradually disappeared, leaving temporary pigmentation. On the anterior surface of the right leg there was a small lichenified area associated with pruritus. This, however, did not seem to be connected in any way with the disease.

The author states that he had observed 5 cases of the disease, all in men. In one case there were lesions on the forearms; in all the others the eruption was limited to the lower extremities. Two of the patients were perfectly healthy; one was diabetic; another was tuberculous; another was neurasthenic.

BALZER AND GALUP. Purpura Annularis Teleangiectodes. *Bull. Soc. franc. de dermat. et de syph.*, 1908, xiv, p. 17. Ses. Jan. 9, 1908.

A. G.; female; single; age, 17; dressmaker. The family history was negative. The patient's past history was not remarkable. She was of a delicate, lymphatic appearance. The duration of the eruption was 2 months.

On the right lower limb, on the inner surface, there was a triangular-shaped patch of about 3 by 5 cm. in size. The general color was pink, slightly violaceous, and the centre was distinctly lighter than the margin. There was no paling on pressure. There was no visible capillary dilatation. There were numerous brownish puncta, which appeared to be follicular. There were a few shiny, scaly spots, somewhat analogous to lichen lesions. There was no infiltration nor were there any subjective symptoms in the patch. Close to this lesion there was a circular lesion about the size of a silver quarter which possessed the same characteristics. A similar patch was noted on the anterior surface of the leg and two more on the posterior surface. There were three lesions in the popliteal space and two on the posterior surface of the thigh.

On the left lower limb, internal surface of the leg, there was a fading patch 6 by 7 cm. Two similar, but smaller lesions were noted on the posterior surface and one on the inner surface of the thigh. A patch on the inner side of the knee had completely disappeared.

The rest of the body was free from analogous lesions, but there was a follicular keratosis in several regions, with partial loss of the eyebrows.

Histology. Throughout, the derma showed dilated vessels engorged with blood and a perivascular infiltration of mononuclear leucocytes, with some increase in the connective-tissue cells. Here and there extravasated red cells could be seen. The authors consider that the disease in their patient was too recent to give the late histological picture as described by Majocchi. They state that their case, both clinically and histologically, conforms to Majocchi's description of purpura annularis teleangiectodes.

FARRARI, A. Purpura Annularis Teleangiectodes; Report of a Case. *Giorn. ital. d. mal.-ven. e d. pel.*, 1908, xliii, p. 233.

S. A.; 40 years of age; a clerk.

Family History. Grandfather was a sufferer from rheumatism. Father was a morphine habituate.

Past History. No history of syphilis. He was a sufferer from gastro-intestinal disturbances. Soon after noticing a few lesions on the legs the patient com-

plained of neuralgic-like pains in the calves of the legs and of rheumatic pains in the knees. He then noticed that the eruption affected both the arms and the legs. He was unable to say how long the eruption had been present.

Status Præsens. The patient was a robust and healthy-appearing male. The internal organs were normal. The dermatosis was not found on the skin of the head, neck, chest, back or on the hands and feet. It was, in general, symmetrical and characterized by:

1. Punctiform or lenticular spots, sometimes streaks, varying in color from bright red to dark red and yellow, due to ectasia of the sinuous capillaries, with effusion of blood and more or less deeply pigmented, as could be perceived by diascopy.

2. Annular configuration of lesions, oval or round, of various sizes, some no larger than a penny, others as large as a silver dollar, with irregular borders of a bright or bluish-red hue, containing minute ectatic and hæmorrhagic spots and enclosing a zone of yellowish color in the small lesions and of a paler color with alopecia in the larger lesions.

Of the primary elements, some appeared to be perifollicular. They were isolated for the most part, but occasionally occurred in groups, and at times there was a tendency to produce an annular configuration. There was no perceptible infiltration.

The dermatosis partook of different characteristics in various parts of the body. On the arms, especially the flexor surfaces, there were annular lesions of medium size. On the abdomen they were of all forms, and some patches in the vicinity of the pubic region showed a tendency to become confluent. On the flanks, the sacral region and the buttocks, there were numerous annular formations, also on the upper third of the thighs. The lesions were largest on the legs.

There was no pruritus, but there was a slight hyperæsthesia in the larger lesions.

The blood was normal. The urine was normal, with the exception of an increase of indican during the first 15 days.

The evolution and involution was exceedingly slow. The lesions, for the most, increased in size by centrifugal enlargement. In a few instances an annular figure was formed by the coalescence of groups of elementary lesions. While the circumference of the rings increases excentrically, the enclosed area becomes yellowish, and when the patch has obtained moderate dimensions the centre shows achromia and partial or complete alopecia. These changes were noted only after two months of observation. New lesions were constantly appearing.

SACHS, H. A Case of Purpura Annularis Teleangiectodes. *Wien. klin. Wchnschr.*, 1910, p. 958. *Verhandl. d. Wien. dermat. Gesellsch.*, Jan. 12, 1910.

The patient, a male of 18, had on both lower limbs, particularly the left, numerous brownish-yellow patches the size of a silver dollar, which when first seen, two months previously, were surrounded by punctiform hæmorrhages situated in the follicles. The patient had suffered from articular pains. The eruption had been present for two years. There were no subjective symptoms connected with the eruption. There had been no traumatism. In the discussion Kren objected to the diagnosis of purpura annularis teleangiectodes, and suggested the possibility of rheumatic purpura.

RADAELLI, F. A Case of Purpura Annularis Teleangiectodes. *Giorn. ital. d. mal. ven. e d. pel.*, 1911, lii, p. 381.

G. V.; age, 19; male; single; pork butcher; native of Florence; came under observation on Oct. 19, 1906; left the service on Nov. 11, 1906; again came under observation on Dec. 28, 1910.

Family History. Mother had had two miscarriages, but both occurred after the birth of the patient.

Past History. The patient had always enjoyed good health. Forty days prior to his visit to the hospital he acquired the venereal sores that led him to enter the hospital. For about 6 months he had noticed circular, red spots on his lower limbs. There were no subjective symptoms and the patient had not taken any medicine.

Status Præsens. The viscera were normal. The urine, with the exception of an excess of indican, was also normal. A blood test revealed nothing remarkable. On the prepuce there were several ulcers. The inguinal glands were not enlarged. There were no signs of previous or present syphilis.

There was an eruption on the lower limbs, especially on the inner surfaces of the thighs and legs, the feet being entirely exempt. The lesions ranged in size from a lentil to a penny, with a yellow centre and a darker border, which contained red dots. The lesions were more or less circular in outline. On close examination some of the dots were found to represent tiny vascular ectasia, while others were distinctly hæmorrhagic. Some were situated around the follicular openings, while others were not connected in any way with the hair follicles. On glass pressure the dots paled but did not disappear. The difference between the central portion and the periphery was not equally marked in all the lesions. Some of them possessed a uniform yellow tint, with a poorly defined border. Their surfaces were smooth and even—no infiltration, depression nor elevation.

Besides these lesions there were, on all the limbs, a multiplicity of fine, ramified or filiform teleangiectasia, without any distinct configuration, hæmorrhage or pigmentation.

Course of the Disease. The eruption underwent no noteworthy modifications while the patient remained in the clinic (1 month). On Nov. 11, 1906, the venereal ulcers having healed, he left the clinic. He was not seen again until Dec. 28, 1910, when he again entered the clinic for a severe *acne vulgaris* of the face. He said that after he left the clinic the eruption had lasted for about two months and then gradually disappeared. Soon after he contracted pleurisy with effusion and was compelled to remain in bed for 45 days.

Examination, Dec. 28, 1910. Both apices were abnormal. The respiration was slow and there was slight wheezing, particularly on the right side. There were several varicose veins on the lower limbs and many fine filiform and ramified teleangiectasies, but nothing that would remind one of the former eruption. The Wassermann reaction was negative. The tuberculin fixation test, with old tuberculin of Koch for antigen, was positive.

Histopathology. All the layers of the epidermis were attenuated. There was a flattening of the papillæ. In the derma the connective-tissue bundles were displaced by dilatation of the lymph spaces. Although their staining properties were normal, they appeared more homogeneous than usual. In the papillary and subpapillary layers the elastic tissue was either absent or reduced to fragments of slender fibrils. In the middle and deeper layers the elastica was better preserved. Here, however, the fibres were more or less fragmented. They were entirely missing around the coil glands and only short, slender filaments were observed around the non-striated muscles.

Blood Vessels. The chief feature observed was the remarkable reduction of the blood supply in the papillary body. Here there were short and slender trunks, lying in a vertical position. Some of these retained their structure and lumen fairly well; others, however, were reduced to slender cords, formed for the most part of endothelial cells. In a few places these elements circumscribed a small cavity, which contained red cells. In most instances, however, the lumen had disappeared.

In the papillary layer, also, there were many capillaries that were enor-

mously dilated, some being engorged with blood, while others were empty. These little vessels possessed an endothelial lining and a comparatively thick, homogeneous or slightly fibrous wall. This was probably due to hypertrophy. In the lower part of the papillary layer the vessels were dilated, filled with blood, but with unimpaired walls. They were surrounded by a sparse infiltration of small round cells and connective-tissue cells. Some of these vessels showed the wall to be attenuated in spots. Here and there could be seen red blood cells in the midst of an accumulation of divers cells, among which could be recognized the remnants of degenerated vascular endothelium.

In the reticular layer and in the subcutaneous tissue the arteries were almost occluded by a proliferation, mainly at the expense of the intima. This was most noticeable in the deep reticular layer and upper part of the subcutaneous tissue.

In one small artery the very beginning of this change could be observed. Here there was an accumulation of granules at one point in the inner elastic coat. This was directed toward the lumen, and caused an elevation of the endothelium at this point. The middle coats were normal. The adventitia was infiltrated with a few small round cells. In the more advanced stage no lumen was discernible. In the central portions, however, there were often a few malformed red globules in the midst of cells, some of which could be recognized as greatly altered endothelium, while others were of the connective tissue variety. The inner elastic membrane had either disappeared or was represented by a few fibrils. The middle coats and the adventitia were of normal thickness in some sections while in others one observed a loss of fibres in the two tunics, with absence of their muscular and connective-tissue elements. In the adventitia, also, there were a few small round cells. It could be easily seen that the process started in the intima.

In other vessels, especially around the base of the hair follicles and around the coil glands, the walls were also thickened; but here, the hypertrophy, instead of being at the expense of the intima, was due to a thickening of the tunica media. In the first stage of this alteration the lumen was about normal, the endothelium was in good condition, the internal elastic coat appeared normal, the adventitia was not infiltrated, but if the tunica media was carefully observed, one noticed a loss of adhesion between the elements, a certain amount of hypertrophy of the cellular fibres and in general a somewhat homogeneous appearance. In the more advanced stage, the lumen was reduced in size and irregular in form. The endothelial lining was interrupted in its continuity. Some of the endothelial cells had become detached and were lying in the lumen. Others, still adherent to the wall, were of irregular shape, possessed a deeply stained, circumscribed, compact nucleus. The elastica interna did not stain well. The tunica media showed marked changes. There was a difference of thickness in the various parts and this appeared to be due to hyaline changes. There was a marked lack of cohesion between the muscular fibres. The adventitia was not thickened nor infiltrated, but was flabby and lacking in fibre. The author next minutely describes the alterations that occurred in the vessels in which the lumen was reduced to a narrow slit with here and there irregular dilatations, and containing sparse red globules or scanty blood detritus. The shape of the lumen was sometimes so irregular as to give the impression of true diverticuli. In the vessels where the changes in the vascular walls, especially in the intima, were most marked, a rupture of the vessel occurred with the consequent formation of hæmorrhagic foci.

The walls of the veins were not hypertrophied. One could notice, however, a reduction and even a disappearance of the lumen. Detachment and degeneration of endothelium and a flabbiness of the tunica media and the adventitia. Finally, one observed a sort of fibrous mass, without lumen, enclosing degen-

erated endothelial cells and possessing muscle cells at the periphery. These showed the end-results of vascular degeneration.

The changes represented by an obliterating endarteritis belonged chiefly to the central part of the lesion, while the dilatation of the capillaries, hypertrophy of the tunica media and flabbiness of the adventitia was noted mostly in the teleangiectatic, hæmorrhagic ring.

The tiny hæmorrhagic foci were noted mostly in the upper portion of the derma and associated with altered small capillaries. More prominent foci were found around the large capillaries with relaxed and flabby walls. Around the vessels showing endarteritis obliterans the hæmorrhages were less frequent and more limited.

Cutaneous Adnexa. All the appendages were more or less seriously affected by the disturbance of nutrition. The cluster of coil glands were almost isolated from the surrounding tissue by a flabbiness of the supportive structure. Many of the lumina of the tubules were greatly dilated, while in others they were badly contracted or even entirely absent. The epithelial cells, both in the secretory and excretory ducts were reduced in size and often without a nucleus. There was a degeneration of the cells of the sebaceous glands.

In the hair follicles the elements of the connective sheath were flabby and separated. The epidermis seemed to be atrophic. The smooth muscles were flabby and the fibres were separated from one another. Some of the fibres or cells appeared somewhat homogeneous and the nucleus stained poorly.

VERROTTI, G. A Case of Purpura Annularis Teleangiectodes (Majocchi). *Giorn. internat. d. sci. med.*, 1911, xxxiii, p. 167.

The following case was observed in September, 1909:

N. E., female; married; domestic; childless.

Family History. Negative.

Past History. The patient had been married for 15 years. After marriage she was subject to severe headaches and to gastralgia. The menstrual flow was irregular and very copious and accompanied by pelvic pain. These symptoms were markedly increased during the three months previous to the eruption. The occurrence of the eruption was immediately preceded by a slight pruritus. The lesions first appeared on the arms and thighs. They had been present two months before the patient came under observation.

Status Præsens. The patient, who was robust and well nourished, presented an eruption symmetrically distributed, but restricted to the upper and lower extremities. It was more intense on the upper arms than on the forearms and legs. It showed a tendency to affect the antero-external rather than the postero-internal surfaces. The hands and feet were not involved.

The eruption assumed the form a ring-shaped efflorescence, rarely isolated, and generally so grouped as to produce festoons. The lesions were composed of reddish-brown, punctiform spots which were close together and equidistant, but not always in apparent connection with the hair follicles. Under glass pressure they did not disappear completely, but paled somewhat, and on close examination, tiny hæmorrhagic foci and teleangiectasia could be noted—hence there was no erythema nor œdema.

In the centre of the annular lesions the skin was of a yellowish hue. There was no atrophy nor alopecia (probably due to the recent date of the eruption). The annular formations were from 1 to 2 cm. in diameter. The efflorescence in general had the appearance of a beautiful lace design. There were no subjective symptoms connected with the eruption, but the patient complained of pain in the elbows, the knees and the sacro-iliac synchondrosis.

There was some dermatography. There was slight cutaneous hyperæsthesia. The urine was normal, with the exception of an excess of indican and acetone. The viscera were normal.

OSSOLA. A Contribution to the Clinical and Histopathological Study of Purpura Annularis Teleangiectodes (Majocchi). *Gior. ital. d. mal. ven. e d. pel.*, 1911-12, lii, Anno 46.

G. A., age 40; married; came under observation in February, 1910; no history of heredity.

Past History. Varioloid at 9; acute articular rheumatism at 15. Palpitation of heart for many years.

Status Præsens. A well-built man without demonstrable visceral lesions. The skin showed a marked dermatography. On the extremities, particularly the lower limbs, there was a superficial, diffuse network of visible capillaries.

The skin trouble began in December, 1909. It was preceded by an intense pruritus; and first developed on the lower limbs. When he came under observation the eruption was located on the dorsal surfaces of the feet, the legs, thighs, gluteal region, and sacral region, with a few spots in the lumbar region. There were, also, lesions on the left arm, especially the forearm and back of the hand. Finally, there were a few spots on the right forearm.

The dermatosis consisted of ring-shaped patches which were both confluent and discrete. When confluent, polycyclic configurations were produced. Some of the lesions occurred as long and short lines, either isolated or in parallel pairs. At the periphery of the lesions there were numerous punctiform or lenticular spots which ranged in color from a bright red to a bluish red; some were of a yellowish and some of a reddish-pink hue. Careful examination of these tiny spots failed to reveal any infiltration, erythema, or swelling. They paled very little if at all under pressure. They appeared to be due to dilatation of the capillaries and tiny hæmorrhages. The annular, linear and gyrate lesions seemed to be composed of collections of these puncta. The skin in the centre of the lesions appeared to be slightly atrophic and was of a yellowish-pink tint. The puncta were always either follicular or perifollicular. The only subjective symptom was occasional slight itching.

The patient was observed for a long period and with the exception of alternate remissions and exacerbations, the eruption remained about the same. Annular lesions were seen to combine into figures, not through the peripheral extension from the initial punctum, but through juxtaposition of other punctiform or lenticular elements. An elastic band was placed on one arm and in two hours red puncta appeared. This was followed by the formation of annular lesions which persisted. A suction cup was applied to the back for two hours, but this failed to produce lesions.

The author describes a second case which came under his observation in June, 1910. During the winter of 1908-1909 the patient had a generalized furunculosis. He had, for many years, been troubled with intestinal disturbances. The patient's skin was very pale, as though there were complete absence of pigment. There was a diffuse, superficial capillary network visible and dermatography was quite apparent. The dermatosis covered the lower limbs and a portion of the gluteal region, also the forearms and the lower thirds of the upper arms, especially the flexor surfaces. The character of the eruption was similar to that of the first cases. No experiments were possible and a biopsy was not allowed.

Histopathology. The epidermis was thinned. The rete pegs were almost absent. In the centre of the annular lesion there was an abundance of blood pigment in the basal membrane. The changes in the derma could be divided into two groups, namely, vascular and degenerative. There was an endarteritis, periarteritis and phlebitis of the papillary as well as the subpapillary vessels. All the vessels were dilated and engorged with blood. Some of the vessels showed weakened walls and some were ruptured. Numerous hæmorrhages were observed. There was a marked perivascular round-cell infiltration. There was a hyaline degeneration of the vessel walls and the muscles.

LINDENHEIM, H. A Case of Purpura Annularis Teleangiectodes. *Arch. f. Dermat. u. Syph.*, 1912, cxiii, p. 689.

The patient, J. A., a man of 39, printer by occupation, gave negative personal and family histories. He was, however, a very nervous individual and fainted very easily. The disease first appeared 15 years ago. It developed very gradually without traumatic influence and has never caused subjective symptoms. It lasted for several years and then slowly disappeared only to occur in a few months. There were some signs of lead poisoning.

Physical examination and special tests were negative. There was slight ichthyosis in various locations. There was a distinct dermatography. The purpuric rash was localized to the lower extremities and gluteal regions. All surfaces of both thighs were involved. On the right leg only the internal surface was involved, while all the surfaces of the left leg were affected.

Objective examination revealed the following interesting facts: The first sign of the disease was the appearance of discrete, pinpoint, carmine-red spots. These lesions were not altered by glass pressure. The spots would then change to a dark red, enlarge to the size of a head of a pin and become grouped around a common centre. Between the individual spots there was a reddish-yellow pigmentation, which under diascopic pressure divided up into roundish flakes lying close together. At the border of the lesion and outside of it the red dots were very conspicuous; inside the ring, they were often less well marked and comparatively sparse. In shape the lesion was sometimes circular, more frequently oval, often quite irregular and in one instance a wreath was formed. The lesions ranged in size from a penny to a diameter of 20 cm.

To the eye the lesions consisted of a salmon-colored ring with a pigmented centre. The border was not sharply defined, as the color merged gradually into that of the normal skin. Most often there was a gradual peripheral extension of the lesion, but occasionally a few red puncta could be seen developing just beyond the periphery. These usually arranged themselves in the shape of a triangle with the base against the old lesion. While the lesion was developing at the periphery there was a retrograde change in the centre. First there appeared a yellowish-brown pigmentation which gradually became darker until it was a black brown. The pigmented area was not solid, but contained minute clear spaces. This area extended at the expense of the salmon-colored periphery. The latter became gradually less distinct and was finally represented by a narrow strip of a reddish-yellow hue and later, this too changed to a dark brown color.

The pigmented remains of the lesions disappeared very slowly. The already mentioned clear interspaces enlarged until all that was left of the lesion were a few grouped "freckles." In a few lesions a very fine desquamation was noticed and many of the older lesions depicted a cigarette-paper wrinkling. There was never any infiltration. The follicles and hair were normal.

Histopathology. There were no important changes in the epidermis. In the papillary layer of the derma there was an enormous engorgement of the capillaries. There was a small round cell perivascular infiltration and, also, there were areas of infiltration which were independent of the vessels. In the reticular layer there was a perivascular infiltration, inflammation of the vessel walls and proliferation of the intima which often led to complete obliteration. Many ruptured vessels were found with red cells and pigment in the connective tissue. Sacculation of capillaries in longitudinal section was noted. Both red and white cells were found in areas in which there was no evidence of a ruptured vessel and this was supposed to be due to diapedesis. There was hyaline degeneration of collagen and of the arrectores pili. In places there was some increase of connective tissue.

LIER. Possible Ætiology of Purpura Annularis Teleangiectodes. *Arch. f. Dermat. u. Syph.*, 1912-13, cxv, p. 605. (Verhandl. d. Wien. dermat. Gesellsch.) Also *Wien. klin. Wchnschr.*, 1914, xxvii, p. 1047.

The patient was a man of 28 who was a sufferer from rheumatism and recurrent tonsillitis. Without describing the eruption the author states that the patient was afflicted with purpura annularis teleangiectodes. The tonsils were removed. Three days later new purpuric lesions ceased to develop and the older lesions began to fade. In 10 days the patient was discharged as cured. No further details are given.

The author (*Wien. klin. Wchnschr.*, 1914, xxvii, p. 1047; *Wien. dermat. Gesellsch.*, May 7, 1914) mentions a second case of the disease that came under his observation. In this patient, also, the tonsils were badly affected, containing deep clefts and suppurating follicles. (This report was received subsequent to the publication of Part 1 and Part 2 of this communication.)

BALINA, PEDRO L. On Two Cases of Purpura Annularis Teleangiectodes. *Revista dermatologica; Organo Oficial de la Sociedad Dermatologica Argentina*, 1912, v, No. 4. Abstracted by A. RAVOGLI in *Jour. Cutan. Dis.*, Nov., 1913, xxxi, p. 969.

Apparently there was but one copy of this article sent to America. Unfortunately this copy was lost, and it was impossible to obtain another in time for this review.

The author reports two examples of purpura annularis teleangiectodes which apparently corresponded in every way with Majocchi's description of the disease.

Histologically, collagen was somewhat sclerotic. The vessels throughout the derma were dilated, filled with blood and surrounded by an infiltration of small lymphocytes. The sebaceous glands had almost disappeared. In one case there were syphilitic antecedents, but no signs of the disease in the patient. In the other case the Wassermann was negative. No evidence or history of tuberculosis could be found in either case. Both patients complained of stomach and intestinal disturbances, which the author considered to be the cause of the affection.

AMBROSOLI, GIAN ANGELO. Clinical and Histological Findings in a Case of Purpura Annularis Teleangiectodes. *L'Ospedale Maggiore*, 1913, i, Ser. 2, p. 385.

G. G.; age 18; male; carpenter; first under observation on Sept. 22, 1912. The family and past personal histories were negative. The patient was healthy in every respect. In July, 1912, a red, infiltrated, half-dollar-sized lesion, containing a few pustules, developed on the inner side of the dorsal surface of the left foot. Bichloride applications were used as a dressing. Shortly after, tiny red spots appeared in the neighborhood of the eczematous lesion and rapidly spread up the legs to the knees.

The urine and blood were normal. Physical examination revealed normal viscera. The cutaneous and subcutaneous tuberculin tests were negative, as also was the Wassermann reaction.

The eruption occupied the lower limbs and was symmetrical as regards position, although the appearance and extent of the eruption was not the same on corresponding parts. It extended from the toes over the instep and up the legs to the knees. The anterior surfaces of the legs were especially affected. There were lesions in the popliteal spaces, on the posterior-internal surfaces of the legs and a very few lesions on the thighs.

The early lesion was a lenticular or punctiform spot, of a dark-red color, with no infiltration and no desquamation. The lesions were mainly follicular, although some were quite independent of the follicles. They were practically unaltered by

diascopic pressure. There were some small macules, composed of dilated capillaries. A coalescence of the puncta produced annular lesions, which were often grouped to form chains, gyrations, etc. The author was able to observe the formation of annular lesions, which was by peripheral progression. The annular configurations possessed a diameter of from $\frac{1}{2}$ to 3 cm. They had a red border, composed of ectased capillaries and hæmorrhagic puncta and a centre which was more or less pigmented.

The eruption developed in the first part of July and increased rapidly throughout July and August. It spread slowly throughout September and October, and then without any appreciable period of quiescence it began to involute. This was rapid, so that on November 10th there was no sign of the eruption excepting areas of pale pigmentation which were rapidly disappearing. There was no dermatography, no atrophy, no alopecia, nor were there any subjective symptoms.

Histology. The histological study was very thorough, seven different stains being employed in the serial sections of two pieces of tissue removed from two annular lesions.

The epidermis was practically normal. Collagen was slightly swollen and relaxed and had a somewhat transparent appearance. Elastic tissue was normally distributed. The vessels of the superficial and deep corium and of the hypoderm were affected.

In the hypoderm the vein showed all its tunics irregularly infiltrated with small lymphocytes. The elements of the adventitia were somewhat dissociated. The media was thickened through dissociation and was somewhat homogeneous. The elastic tissue, while destroyed in places, was fairly well preserved. The endothelial cells were swollen and proliferated to the point of complete occlusion. In other words, an endophlebitis obliterans, accompanied by a diffuse infiltrative and degenerative process of the tunica media. In the artery there was only a slight hyperplasia and hypertrophy of the media, which to some extent narrowed the lumen.

In the derma, where it was impossible to distinguish between artery and vein, there was a numerical increase in the capillaries. There was an infiltration of small lymphocytes around many of the vessels, and this infiltration extended into the tunics, causing a dissociation of the elements and allowing a diapedesis of red cells. The muscular tissue of the media showed hyaline degeneration. Here and there could be detected a proliferation of endothelium.

Other vessels, not surrounded by infiltration, were widely dilated and presented a well-preserved intima. Some of these were filled with blood, but most of them were empty or contained only a little blood detritus. The tunics were more or less dissociated, giving rise to aneurismal sacculations, rupture and hæmorrhage.

The lymphatic vessels and lacunæ were markedly dilated.

The unstriated muscles, both erector and oblique, were less compact. The muscle bundles were surrounded by clear spaces and similar spaces were found within the muscle. They showed, also, degenerative changes.

The follicles, sebaceous and coil glands were normal.

PASINI, A. A Study on Purpura Annularis Teleangiectodes (Majocchi). *Giorn. ital. d. mal. e d. pel.*, 1913, liv, No. 1.

G. G., 18 years of age, carpenter, born in Lissone (Mongh). Admitted to the Dermatological Institute of the Ospedale Maggiore, Milan, Sept. 11, 1912.

Family History. Negative.

Previous History. Negative.

The patient is well-developed, both physically and mentally, and is in good general health.

The dermatosis for which he was admitted dates back two months. It began

on the lower third of the legs and the dorsal surfaces of the feet, and gradually spread to the antero-internal surfaces of the thighs. The onset of the disease was not preceded by nor accompanied by general disturbances, nor did it follow the ingestion of any particular food or medicine. A thorough physical examination, including blood tests and urinalysis, revealed nothing abnormal. There was no history nor sign of syphilis. The Wassermann reaction was negative. The von Pirquet test was also negative.

The dermatosis is composed of rounded or elliptical areas with irregular margins. In general they are annular and are of a reddish-yellow color in the central portion and bright red with hæmorrhagic dots in the periphery. The lesions vary in size from a birdseed to a grape. The smaller ones are full and show no change from centre to periphery. They are of a diffused reddish color, and in them can be seen a delicate scarlet-red network of dilated blood vessels, and an occasional dark-red hæmorrhagic dot. Under the diascopé the general red color disappears, but the dark red of the hæmorrhagic spots remains.

In the larger lesions the centre varies in color from red to dark yellow. The periphery is rosy in color, and in it can be seen fine, dark-red streaks that correspond to the dilated capillaries; also some dark-red hæmorrhagic spots. In some instances these hæmorrhagic spots are in close relation to the follicles. There is no desquamation, no infiltration, no œdema, and there are no subjective symptoms.

The eruption occupies the dorsal and lateral surfaces of the feet, all surfaces of the legs and the antero-internal surfaces of the thighs. Altogether there are about 150 individual lesions. They are mostly discrete, but occasionally there is a confluence of two or more lesions giving rise to a polycyclic configuration.

During the patient's stay in the hospital, which lasted two months, the disease depicted two stages: the first, which lasted about 40 days in which the eruption remained unchanged; and a second one of about 30 days, in which it gradually faded and disappeared, leaving a slight pigmentation which possessed an annular arrangement.

Experimental Work. Inoculation of pieces of tissue into guinea pigs was negative. Various forms of artificial irritation of the skin were tried with negative results. Artificial stasis was produced with a resulting livedo annularis, but no new production of purpuric lesions. It was evident, however, that the rings of the livedo annularis markedly resembled those of the purpura annularis.

Histopathology. The epidermis is normal. The papillæ are normally disposed, but are œdematous. The derma is œdematous, and both the pars reticularis and the pars papillaris show interesting alterations, principally in the blood vessels. The subcutaneous tissue is normal.

Vascular Alterations. These occur throughout the circulatory system of the skin, from the larger vessels that run along immediately beneath the subcutaneous layer to the subdermal layer, to the subpapillary layer, and to the finest ramifications in the papillæ themselves.

In the deep subcutaneous tissue of one of the diseased areas there is a diffuse infiltrating phlebitis with proliferating endophlebitis and obliteration of the blood vessels. The infiltration is composed of small mononuclear cells, of the lymphatic type, and involves all the coats of the vein, whose normal muscular and elastic elements are dissociated, broken up and in part destroyed. In the lumen of the vein, besides the infiltrating process of the intima, there is a marked proliferation of the endothelial cells which helps in the restriction and almost complete obstruction of the lumen of the vessel. A study of serial sections demonstrated that the lesion begins with a moderate lymphocytic infiltration of the venous coats, which is quickly accompanied by a marked proliferation of the endothelium of the intima. These changes rapidly increase along the course of the affected vein until the vessel is totally obstructed.

The vein was in the deep subcutaneous tissue. Alongside of it there was a normal nerve bundle and an artery which was unaffected with the exception

of a very slight hypertrophy of the tunica media muscularis, both in the longitudinal and transverse fibres, but without any degenerative changes.

In another section there was an affected vein in the deep reticular layer, and running parallel with it was an artery. Both vessels were of good size and had the typical distribution of elastic and muscular tissues that allowed of differentiation of the vein from the artery. The artery was normal, with the exception of a slight hypertrophy of the muscular coat. The vein, on the other hand, while being unaffected for quite a distance as it ran along, parallel to the subcutaneous tissue, finally showed a slight infiltration of small mononuclear cells of the lymphocytic type and an evident proliferation of endothelium with a consequent narrowing of the lumen. These changes became rapidly more marked along the centrifugal course of the vein and reached the maximum, with total obliteration, precisely at the point where the vein was being transformed, by subdivision or branching, from a vessel of fairly good size of the deep subdermal plexus, to vessels of much smaller size which radiated to the superficial derma. It could be determined that the predominating change was a proliferation of the intima, either by means of the endothelial cells or by young connective-tissue cells. The middle and external coats were moderately infiltrated by lymphocytes.

Above the deep subdermal circulatory plexus, where it became impossible to definitely differentiate between the arteries and veins, the following changes were noted: more or less marked infiltration of the walls; dilatation of the lumen which was filled with blood; extravasation of red blood cells through the weakened, dissociated and sometimes ruptured walls; marked proliferation of the capillaries.

The infiltration was composed of lymphocytes and involved the capillary walls and to a slight extent the surrounding connective tissue. Often the infiltration of the walls was accompanied by a slight proliferation of the endothelium. On account of the infiltration the walls of the small blood vessels underwent a dissociation of their elements with a hyaline degeneration of the muscular fibres. The infiltration did not involve all the vessels, but only a limited number, and without any apparent predilection. The greater number showed only a great dilatation with the lumen filled with blood, and often with limited dilatations of the walls, somewhat like aneurism.

On account of the enormous dilatation there was a pushing aside of the normal histological elements with an extravasation of serum and migration, by diapedesis, of red cells. In other places, especially in relation to the small aneurismal dilatations, the thin walls were torn with the production of free hæmorrhage.

The extravasated red cells had invaded the connective tissue to quite a distance from the point of exit, favored by the œdema that had preceded the hæmorrhage. The hæmorrhage even invaded the muscular bundles. The dilatations, extravasations and hæmorrhages not only occurred in the papillary and reticular layers, but also in the subcutaneous tissue.

Another abnormal condition of the circulatory system was a well-marked proliferation of the capillaries. This was especially accentuated in the neighborhood of the hair follicles.

The above is the fundamental pathological picture. Following these changes there are alterations in the other tissues that are worthy of notice. The hypertrophy of the longitudinal and transverse muscular fibres of the arteries in the subcutaneous tissue and deep derma has already been mentioned. In places this hypertrophy was so accentuated as to cause constriction, nearly an obliteration of the lumen, but degenerative changes in the muscular coats of these vessels were never detected. On the other hand, degenerative changes, hyaline in character, were present in all the blood vessels whose walls were not invaded by elements of infiltration, beginning in the larger veins of the subcutaneous tissue

and extending to vessels in the deeper layers, and even involving the capillaries of the subpapillary plexus.

Quite marked changes were noted in the muscles of the hairs. These changes consisted in œdema, in a frequent spiral conformation of the nuclei, and in a slight hyaline degeneration of the fibers. A few red cells were noted between the separated fibers.

There were no changes in the follicles and sweat glands. The elastic tissue was normal in distribution.

NOBL. Cases Supposed to be *Purpura Annularis Teleangiectodes* (Majocchi). *Arch. f. Dermat. u. Syph.*, 1913-14, cxvii, p. 870.

Case 1. Male; age, 25. The eruption was situated on the lower limbs and consisted of lesions ranging in size from a lentil to a silver half-dollar. The lesions were mostly annular, although there were solid discs and linear lesions. The spots were composed of dilated capillaries interspersed with pigmentation. The eruption lasted several months, during which time the lesions remained about the same, as the disappearing elements were replaced by new ones. There were no subjective symptoms. The Wassermann reaction was positive.

Case 2. Male; government official; age, 26. The eruption occupied the lower limbs, the flexor surfaces of the forearms and the abdomen. There were a few lesions on the soles of the feet. The duration was two years. The lesions were mostly annular, with pigmented centres and red borders. There was no atrophy. There was no evidence of tuberculosis and the Wassermann reaction was negative.

TRUFFI. A Case of *Purpuris Annularis Teleangiectodes* (Majocchi). *Giorn. ital. d. mal. ven. e d. pel.*, 1912, liii.

P. G.; peasant boy of Spotone; age, 22. Family history, negative. The duration of the eruption was two months. For several days prior to the appearance of the eruption there was a sensation of tension and of weight in the lower limbs, then the legs became swollen. About this time he noticed reddish patches on the lower third of the legs. These, within a month, spread to the knees, thighs, forearms and abdomen. The eruption itself did not cause subjective symptoms.

The patient was strong and healthy. The urine and blood were normal. The viscera were also normal. There was an otitis media of long duration. The cutaneous tuberculin and Wassermann tests were normal.

The cutaneous eruption was located on the lower limbs, the abdomen and the forearms. It consisted of patches of various size and color. On the posterior surfaces of the lower half of the legs there were numerous punctiform, discrete hæmorrhages which varied in color according to their age. They were frequently in association with the hair follicles. On the upper half of the legs the lesions ranged in size from a pinhead to a lentil, and even to a penny, and were of a circular form. The color of the margin of the lesions varied from pink to bright red and from a reddish-brown to a yellowish-green. These various colors could be detected in the margin of a single lesion. The central zone was of a yellowish color. Diascopic pressure demonstrated that the color was partly due to vascular ectasia and to hæmorrhages of varying duration. The latter were both connected with and independent of the hair follicles.

The ring formation was more marked on the thighs, especially on the buttocks, where the lesions were much larger and, becoming confluent, formed polycyclic areas. There was no infiltration and no desquamation. There was no atrophy, no alopecia, no impairment of sensation, and there were no subjective symptoms.

The eruption was most extensive on the legs, less so, however, on the outer than on the inner surfaces. The legs were somewhat swollen. On the thighs the eruption was more marked on the posterior and internal surfaces. It was most prominent on the buttocks. There were a few spots on the back. The eruption on the abdomen was confined to the region below the umbilicus. There were a few faint patches on the flexor surfaces of the forearms. In a general way, the eruption was symmetrical. Dermography was present to a slight extent.

The patient was kept under observation for several months and a study of the development of the annular lesions showed that they were formed by the centrifugal progression of the margin of the punctate and lentil-sized spots, with a clearing in the centre. Fowler's solution and hydrastis canadensis were prescribed. At the end of four months the eruption on the legs had entirely disappeared. The annular lesions on the thighs and trunk persisted, although they were fainter. Some of the rings seemed to be interrupted in the course of development. Two months later the improvement was still more evident. There now remained only a few faint pigmented rings on the thighs and buttocks, with here and there a slight teleangiectatic or hæmorrhagic spot. There was no atrophy or alopecia.

Histopathology. Initial punctiform hæmorrhagic spot. The epidermis showed no changes worthy of note except a slight intercellular œdema. In the papillary layer, here and there, was a vein distended and full of blood. In the subpapillary layer almost all the vessels presented alterations in their walls. In some the endothelium had proliferated and become swollen so as to cause complete occlusion of the lumen. Around the vessels there was a dense cellular sheath composed of lymphocytes and broad cells with a large, clear nucleus, similar to perithelial cells. In other vessels there was no appreciable alteration in the endothelium, but only evidences of a marked perivascular infiltration. Many of these vessels were enormously dilated and engorged with blood. Here and there were noted small hæmorrhagic foci due to extravasations through abrasions in the capillary walls. The red globules were well preserved. Similar vascular changes were found in the deep corium. Both the arteries and veins were affected. These alterations were especially marked in the neighborhood of the coil glands. They appeared to be less marked in the regions occupied by the hair follicles and the sebaceous glands. The lymphatic vessels were distended. In the non-striated muscles, the cells were distended and separated. The elastica was normal excepting in the regions of perivascular infiltration where it was attenuated or absent.

Annular Lesion. Here the changes were similar to those already described. In the periphery there were vascular dilatations and hæmorrhages. Endarteritis was found both in the periphery and in the central zone. There was no evidence of an atrophic process. The sebaceous glands, hair follicles and sweat glands presented no alterations worthy of mention.

SCHIEBER. *Wien. dermat. Gesellsch.*, May 7, 1914; *Wien. klin. Wchnschr.*, 1914, xxvii, p. 1046.

Female; age, 35. Patient had suffered a great deal from rheumatism and sore throat. The eruption was extensively scattered over the lower limbs; there were a few lesions on the forearms, and an occasional one on the body. There were, in addition, groups of teleangiectasia on the mucous membranes of the cheeks. The lesions consisted of annular patches containing teleangiectasia. Between the annular lesions there were minute red spots either singly or in groups. The Wassermann and tuberculin tests were negative. The author agrees with Lier that the disease is a rheumatic manifestation. (The article was received too late for publication in the clinical chart.)

DELBLANCO. *a.* Mycosis Fungoides; *b.* Purpura Annularis Teleangiectodes. Aertzl-Vereinsber. Verein in Hamburg, Nov. 19, 1912. *Deutsch. med. Wchnschr.*, 1913, xxxix.

This is the report of a case of purpura annularis teleangiectodes at a medical society. The details of the case itself are not given.

LIPSCHÜTZ. Wien. dermat. Gesellsch., May 29, 1912; *Dermat. Zeitschr.*, 1912, xix, p. 739.

A case of purpura annularis teleangiectodes presented, but no details given.

CONCLUSIONS.

1. Purpura annularis teleangiectodes possesses clinical, morphological and histological features that are unlike those of any other known dermatosis. It is, then, an entity.

2. The essential clinical characteristics are lentil-sized, light-red macules in which, especially at the periphery, develop dark-red hæmorrhagic puncta. The lesions enlarge by centrifugal extension, the centre becomes pigmented and perhaps atrophic, and an annular lesion is produced. The puncta are usually follicular. Evolution and involution are slow, requiring from 6 months to a year or more. The eruption always occurs on the lower extremities, occasionally on the upper extremities and the trunk. The disease can be divided into 3 stages: 1, teleangiectatic; 2, hæmorrhagic-pigmentary; 3, atrophic.

3. The essential histological features consist of an endarteritis and an endophlebitis obliterans which begin in the vessels of the hypoderm and gradually include the capillaries of the entire derma. The occlusion is caused by a proliferation of the intima or by a swelling of the tunica media, or both. The adventitia plays no important rôle in the process. The capillaries are widely dilated and there is a diapedesis of red cells. A moderate perivascular lymphocytic infiltration is usually present. Finally, hyaline degeneration of the blood vessels occurs, with the formation of tiny aneurismal sacculations which rupture, with resulting hæmorrhage and pigmentation. Secondary changes such as œdema, atrophy and degeneration occur in the epidermis, derma, hypodermis and adnexa.

4. The ætiology is unknown but is thought to be a toxine acting directly upon the vessel wall or indirectly through the nervous system. Syphilis and tuberculosis have been pretty definitely excluded.

5. My case demonstrated all the characteristics necessary for a diagnosis. It resembled, in nearly every particular, the classical description given by Majocchi. The exceptions are the lack of folli-

cular involvement, the relapses and the presence of epidermal excoriation, together with one or two minor pathological changes.

I desire to thank Prof. Fordyce for allowing me to report the case herein described, and for placing at my disposal the facilities of the Dermatological Department. I wish, also, to express to Dr. Elizabeth C. Jagle my appreciation of her kindness in helping me in the study and interpretation of the histological material.

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DISCUSSION.

DR. SCHIALEK said the microscopical picture of the endarteritis and, clinically, the annular outlines of the lesions certainly suggested syphilis more than anything else, although that possibility had been positively excluded by Dr. MacKee. The

speaker thought the term purpura was not very applicable to these cases, as the lesions did not conform with our ideas of this affection.

DR. RAVOGLI said that while the application of a new name to a condition of this kind was worthy of consideration, we should not lose sight of the fact that similar lesions were observed in *acne necrotica*, among the peculiar class of tuberculides and in necrotic folliculitides. In these we might have the same formation of pustules, with resulting cicatrices, and possibly this case could be placed under one of those headings.

DR. MOOK said they had seen three or four of these cases, and for the want of a better name had classified them under that of pigmented atrophic dermatitis. In their cases, as in that produced by Dr. MacKee, they found the obliterating endarteritis. In one of the cases there was an ulcer about the size of a dime, after biopsy, which persisted for over one year.

DR. ENGMAN said that some years ago Dr. Mook had called his attention to a condition similar to that described by Dr. MacKee, and since then they had seen several cases which they were unable to classify and to which they applied the name, in the records, of "Mook's disease." About six or eight months ago, while reviewing some literature, Dr. Engman said he had come across some of the names Dr. MacKee had mentioned, and had immediately placed their cases in that category. Most of their cases, the speaker said, had occurred in railroad men, brakemen, who were much exposed to the weather.

DR. MACKEE said that annular purpuric lesions occurred in syphilis, in simple purpura, in congestive dermatoses and other diseases. Annular teleangiectatic lesions were seen in Hutchinson's infective angioma, syphilis and tuberculosis. But the three definite stages of evolution and the long course would clinically differentiate purpura annularis teleangiectodes from any other affection. Syphilis and tuberculosis had been pretty definitely excluded as ætiological factors. Many of the histological features were found, also, in syphilis, but the histopathology in its ensemble did not suggest syphilis in the least.

CLINICAL REPORT.

THE DERMATITIS OF PELLAGRA.

By THOMPSON FRAZER, M.D., Asheville.

THE physician in localities where pellagra is prevalent is thoroughly familiar with the dermatitis of that disease. In other sections one might readily neglect the examination of the skin and attribute the constitutional symptoms present to some other cause; this is especially likely to occur when the skin symptoms are mild and of but short duration. I have thought it worth while, therefore, to present these three photographs of pellagrous dermatitis, supplementing them with brief descriptions.

According to my experience the most usual location of the eruption has been the backs of the hands and forearms, the neck, and the sternum. One of the characteristics of the pellagrous dermatitis

is its symmetry. The outlines are also rather sharply defined. If one is fortunate in seeing a case at the beginning of the development of skin symptoms, one encounters an erythema with some swelling of the skin, not unlike a sunburn. Photographs taken at this stage very often reveal little.

Fig. 1. Case, J. M., aged 65 years. Had suffered for two weeks with "indigestion." The skin of the dorsum of both hands was smooth, red, shiny and swollen, with a vesicle at about the centre of the right hand. Photograph taken the day after appearance of the erythema. Note the set expression of the face.

Fig. 2. (Courtesy of Dr. Ringer.) Here is seen a symmetrical dermatitis of the backs of the hands, with a somewhat jagged outline. There are also symmetrical oval patches on each side of the neck. Constitutional symptoms were a slight loss of appetite and mild "nervous" symptoms.

Fig. 3. Case, L. D., aged 16 years. Here is shown an ovoid area of dermatitis over the sternum and sterno-clavicular junctions. This case also presented a symmetrical dermatitis of the hands and forearms. Constitutional disturbance was slight, although there had been a loss of ten pounds in a few weeks. All these cases were photographed in their first attack.

While I have described only a few of the various forms of pellagrous dermatitis it is hoped that this brief paper may serve to remind one of the more common appearances which it assumes, and possibly to throw some light on an otherwise obscure dyspepsia, diarrhoea, or "neurasthenia."

CORRESPONDENCE.

To the Editor:

NEW HAVEN, CONN.

About three and one-half years ago, after using the X-ray for about ten years for therapeutic purposes, I gradually developed a burn of both hands, which continued to increase in severity, in spite of the protection afforded by a lead screen.

The burns got so bad, after about three years, that I abandoned the use of the X-ray entirely. At this time I was unable to write and had a physician in my office to do my work.

The hands were swollen, moist, and there were paroxysms of itching, which were intolerable. Several keratoses developed and all the nails were deformed or lost.

Authorities in this city and New York prescribed various emollients, which failed to produce any lasting benefit.

Six months ago, realizing that the condition was getting steadily worse, and knowing of several cases of X-ray burn which had been improved by radium treatment, I reasoned by analogy that direct exposures to the X-ray might work similarly. I therefore gave the hands a ten-minute exposure, at a distance from

the tube of about two inches, and repeated the treatment in five days. Decided improvement set in after three exposures, and after twenty-one exposures, the last one having been made about three months ago, the hands are practically well. There is some atrophy of the skin, but it is flexible and soft. All keratoses but one have disappeared, and that one is getting better.

I do not yet dare to recommend this procedure to any other sufferer from X-ray burns, but offer this preliminary report for what it is worth.

R. A. McDONNELL, M.D.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, Oct. 27, 1914.

HANS J. SCHWARTZ, M.D., *Chairman.*

CHANCER OF THE THIGH. Presented by Dr. MacKEE for Dr. FORDYCE.

The patient was a native of Italy, aged 31, and was infected by her husband, who had a primary lesion on the penis two months ago. She presented a typical Hunterian chancre on the inner aspect of the left thigh, about two inches below the vulva. There was no secondary eruption, but the blood test was positive.

ACRODERMATITIS CHRONICA ATROPHICANS. Presented by Dr. TRIMBLE.

The patient was a woman, 21 years of age, married, born in Germany. The lesions were on both legs and the right forearm, and seemed like large areas of passive congestion. This was probably due to the fact that the duration of the condition was only one year, and it was still in an early stage of development. The interesting features were the early stage of the disease, the fact that the lesions began at the knee and worked downward, and that the disease extended only as far as the dorsum of the foot, the base of the toes not being affected.

DISCUSSION.

Dr. WISE agreed with the diagnosis of beginning diffuse atrophy.

Dr. KINGSBURY thought it a very interesting case in the early stage of the affection.

DARIER'S DISEASE. Presented by Dr. ROBINSON.

The patient, 18 years of age, was under the care of Dr. Daisy Orleman Robinson, and had been previously presented before the Society. The condition began when she was 9 years old. Dr. Robinson said that it was such a well-marked case that he thought the members would be interested to see it again. The disease was not common now, nor was it when Darier studied it. This case was first diagnosed at the New York Skin and Cancer Hospital as a case of seborrhœic eczema, but a section showed very distinctly that it was a case of Darier's disease.

DISCUSSION.

Dr. FORDYCE said there was no doubt about the correctness of the diagnosis. He remembered very well the first case recognized in this country, which was presented before the Society by Dr. Lustgarten. Dr. Fordyce said that he had

studied very carefully the histology of those cases which showed the characteristic intracellular inclusions very distinctly.

DR. SHERWELL was reminded by this case of one he had presented at a meeting of the Society about forty years since. It was even more pronounced, and the distribution of lesions more general. There was at that time a question as to whether it was lichen ruber of Hebra or an extensive and chronic case of Dévergie's disease. Darier had not at that time written on his subject, but in his (Dr. Sherwell's) mind the case was unquestionably of the latter type. The subject was a female, about 35 years of age, poorly nourished, and, though not emaciated, she was worn down and dyscrasic. Dr. Sherwell said he thought her picture was published in either Dr. Fox's first Atlas or in the *Archives of Dermatology* of about that date.

DR. TRIMBLE said that lately he had wondered whether it was not probable that more of these cases were going about than were seen by the profession. The disease caused no trouble in the early stage, and many persons might be affected without consulting a dermatologist. He had seen five cases in one family, and had written them up in a clinical note read before the Section on Dermatology of the American Medical Association, two or three years ago. In some of the cases the keratosis on the feet was so troublesome that the patient could not walk. Dr. Trimble said that he had seen this case when it was first presented by Dr. Daisy Orleman Robinson, and it was difficult to make a diagnosis at that time. It had progressed very much since then.

DR. WILLIAMS remembered seeing the same case before Dr. Robinson presented it. It was then considered a case of eczema, and later was thought to be seborrhœic eczema. The forehead and cheeks were involved. The condition had changed enormously in the last five years.

DR. ROBINSON confirmed what Dr. Williams had said, and stated that he had made the diagnosis after a biopsy and a microscopical examination. The case spoken of by Dr. Fordyce was shown before the Society years ago by Dr. Piffard, before Darier described his cases. He himself had not been present, but was informed that the opinion expressed at the time was that it was a case of lichen ruber acuminatus of Hebra. In examining the sections, he observed the peculiar cells later described by Darier, but paid no attention to them, and wrote up the history as that of lichen ruber acuminatus. Dr. George H. Fox saw the case a year later, and told Dr. Robinson that if he could see it then he would change the diagnosis. Dr. Robinson, however, had seen it only one time and could not follow it up. He had an excellent water-color of the case. Dr. Robinson said that since Darier described the condition he had always called it Darier's disease, as he considered that Darier deserved the credit for having worked up the subject as it should have been done. This case certainly looked like a seborrhœic eczema at first, and the diagnosis could not have been made without a section. A great deal of work had been expended in studying this case, but we did not seem to learn much definitely about it. We knew the pathological anatomy, and that was all that could be claimed. To him it seemed to be an hereditary condition. It certainly was not parasitic.

PITYRIASIS RUBRA OF HEBRA(?) Presented by Dr. Wise.

The patient (originally presented before another society by Dr. Lapowski) had been presented at a previous meeting with a tentative diagnosis of pityriasis rubra of Hebra, and at the request of one of the members he was brought again for further study. A biopsy had been made and a section therefrom was presented for observation. The history of the case had been published in full in a recent number of *THE JOURNAL*. The Wassermann test was negative, the von Pirquet positive. The blood and urine were normal. The atrophy of the skin was almost universal. There was also a very general adenitis. (A complete study of this case was under way, and the results would be reported at a future date.)

DISCUSSION.

DR. ARNDT (on invitation) said that it was very difficult to discuss the case. All that one could say was that there was a chronic inflammation of the skin terminating in a very marked atrophy. The latter symptom dominated the clinical picture.

As to the different diagnoses suggested, pityriasis rubra pilaris, lichen ruber acuminatus, pityriasis rubra of Hebra, he could not agree with any of them. In lichen ruber acuminatus the primary lesions were perifollicular. There was no marked follicular localization in this case. In the lichen ruber acuminatus there would not be these peculiar ill-defined, deep-seated, soft infiltrations of the skin, as were seen on the forehead of this patient. The course would be different. Either the lichen ruber acuminatus became universal within a year or so, or it retrogressed in parts and recurred in others. There had been no retrogression at all in any part of the body of this patient since the beginning of the disease, seven years ago.

In pityriasis rubra pilaris, the primary lesions were likewise follicular. There were no deep, patchy infiltrations. There would be much more scaliness about the face and scalp.

As to the diagnosis of pityriasis rubra of Hebra: it was very difficult to reach an agreement concerning that name. At the present time we were rarely inclined to make this diagnosis. The pityriasis rubra of Hebra was a universal, chronic reddening and exfoliation of the skin, ending in atrophy. These symptoms were rather vague and we saw the same changes in different processes, such as the lymphatic leukæmic and the tuberculous erythrodermias. The latter was a rare form of tuberculosis of the skin first described by Brunsgaard, which was a generalized exfoliative erythrodermia coexisting with tuberculosis of the inner organs and showing the typical tuberculous changes in the skin. Then we knew the dermatite éxfoliatrice généralisée subaigue described by Wilson and Brocq. The course of this latter condition was subacute and did not last longer than about six or seven months. Admitting the possibility of this case being a so-called pityriasis rubra Hebræ, there ought to be a universal spreading and generalizing after seven years' duration.

The speaker said he would like to make two suggestions concerning this case. One might think of the possibility of a mycosis fungoides, although the marked scarlike atrophy of the skin and the lack of any retrogression were against it. But as far as the clinical picture was concerned, the deep, ill-defined, œdematous infiltration of the skin of the forehead and the histological picture of the presence of irregularly scattered giant cells, different from the Langhans type, and recalling those seen in mycosis fungoides, were suggestive to a certain degree. Of course, these giant cells were not exclusively found in the latter disease, and did not enable us to be affirmative in the diagnosis.

The other suggestion which he would have to make was the following: The most marked feature in this case was the atrophy of the skin, and it might be that we had to deal with a case of the so-called idiopathic atrophy of the skin. The chronic inflammatory infiltrations about the forehead would not be against the diagnosis. We knew that the atrophy in these cases was but a final stage. In acrodermatitis chronica atrophicans, of course, the localization was different. The fact that there had not been any remission at any time would be in favor of this diagnosis. This dermatitis atrophicans could be related to the ordinary forms of acrodermatitis chronica atrophicans or érythromelie (Pick), or might be different from the well-known clinical pictures. Very often we had to rely upon the histological changes if the clinical picture was not very clear; but in the case presented the microscopical changes showed us much more than we could learn from a pure clinical observation. There was chronic inflammatory infiltration of the upper third of the derma, with very marked atrophy of the

epithelium. The cells composing the inflammatory new growth were lymphocytes, spindle-shaped cells, mast cells, pigment cells and some peculiar giant cells. Altogether these changes were not sufficient to make a positive diagnosis.

Another feature in this case to which attention should be directed was the rather general involvement of the lymphatic glands. If it would be possible to take out any of these glands and make a histological diagnosis of the changes found in the lymph nodes, we might, perhaps, get a clearer idea of what the case really was, if there was any relation between the skin lesions and the general swelling of the lymph nodes.

Dr. ARNDT said that he had seen one case like this in Berlin, in which he hesitated for a very long time in making a diagnosis, even after careful histological study of an excised piece of tissue. In this case he finally decided upon a dermatitis chronica atrophicans.

Dr. TRIMBLE did not think the clinical picture suggested lichen ruber acuminatus, and could not agree with such a diagnosis. The main reason for this opinion was that the disease was not follicular. Although he had seen only a few cases of pityriasis rubra, in these the redness was much brighter and more marked than in the patient just shown. In the case under discussion the color was quite dark—a brownish red. Upon the basis of his experience, he did not feel that he could agree with the diagnosis of pityriasis rubra of Hebra.

Dr. ROBINSON said that the term lichen ruber acuminatus had been used, and he would like to explain what he understood by that term. We had not in forty years seen any cases of the lichen ruber acuminatus of Hebra, as described by him. All of these cases subsequently described under that term were now considered as pityriasis rubra pilaris (Dévèrgie).

Dr. ROBINSON said that he had nothing to add to what had been said excepting to agree to a great extent with what had been said by Dr. Arndt. It was not the pityriasis rubra of Hebra. In the only case of this disease that he had seen for a number of years, the sections resembled it somewhat, but the condition mentioned had not the marked atrophic condition present in this case. No diagnosis should be attempted in this case without a microscopic examination. There was not much inflammatory process. It was not a pityriasis rubra, nor did it suggest any mycotic condition. He would regard it as a unique case, not to be included under the head of any well known disease. He was inclined to consider that some internal secretion was at fault, or that there was some trouble of the central nervous system. He had not seen any other case exactly like it in New York.

Dr. ARNDT said that up to about two years ago he had been of the same opinion as Dr. Robinson, that pityriasis rubra pilaris and lichen ruber acuminatus were the same. In most of the cases of that disease which had been described first by Dévèrgie as pityriasis rubra pilaire, the Viennese school would have made the diagnosis of lichen ruber acuminatus. Two years ago, he came across a case in which he hesitated to make the diagnosis of pityriasis rubra pilaris, although the lesions looked very much like it. The histological examination showed the typical changes of lichen planus. Therefore it was evident that this was a lichen ruber acuminatus and different from pityriasis rubra pilaris. There existed a variety of lichen planus that might be called lichen ruber acuminatus on account of its clinical picture, that differed rather from the lichen planus, in so far as *all the papules were peri-follicular*, there being no *flat papules* at all.* Histologically, these two forms did not show any difference whatever.

Dr. ROBINSON said that in lichen planus the sweat glands contributed to the umbilicated character. The corneous cells were compressed, as also the rete, on account of the presence of the excretory duct of the sweat glands. Apart from

* The coexistence of follicular papules *besides* the flat ones in the ordinary forms was, of course, of frequent occurrence.

the few scales that were thrown out, this was the cause of the depressed centre often observed. All of Wilson's cases had umbilicated lesions. We knew the cases of lichen ruber of Hebra ended fatally. For that and other reasons, he did not regard these two forms of eruption designated as lichen ruber planus and lichen ruber acuminatus of Hebra as being two forms of the same disease. He thought that view had been given up by all dermatologists.

Dr. ARNDT agreed with Dr. Robinson in giving up the old conception of lichen ruber acuminatus created by Hebra. The fatal issue in these cases may have been due to a generalizing of the process, the condition which the French called *herpetides exfoliatrix malignes*, a general chronic inflammation of the skin, not only occurring in the course of lichen planus, but also in eczema, psoriasis, etc. But setting apart the old clinical picture described by Hebra that was partially identical with Dévergie's disease, there was a lichen ruber acuminatus clinically differing from lichen planus, although probably a variety of this disease as shown by the very characteristic histological changes. It might be called a variety of lichen planus, but the clinical difference from the ordinary forms was so marked and striking that it was advisable to reserve for this form the old term of lichen ruber acuminatus.

Dr. HOWARD FOX said that it had been a great pleasure to hear Professor Arndt's opinion of this case, that had caused so much previous discussion. He was interested to hear Professor Arndt speak of lichen ruber acuminatus and pityriasis rubra pilaris as separate diseases. In his own opinion—which he thought was that of most American dermatologists—the two names represented the same condition. He did not think the case under discussion could be included in the disease described by either of these names, for the reason, as Professor Arndt had said, that the eruption had been almost universal for such a long time. In all the cases of pityriasis rubra pilaris that he had seen the eruption had eventually cleared up—in part, at least—after a number of months. An argument against the diagnosis of premycosis was the entire absence of itching.

Dr. KINGSBURY said that the case obviously called for continued study, and suggested that previous therapy might have had some bearing upon the present clinical appearance. It might have been that some of the atrophy and pigmentation were due to arsenic and to X-ray treatment. It would be interesting to learn how much arsenic the patient had had. With reference to Hebra's fatal cases, it would seem probable that some of the deaths may have been due to arsenical poisoning, as he gave arsenic in enormous dosage.

Dr. FORDYCE said that the case presented was, in his experience, a unique one and deserved much careful study. The histological examination of the lymph nodes might throw some light on the condition. Some years ago he had presented a very extensive case of annular lichen planus. The patient became cachectic and finally died with a persistence of the lichen lesions. An autopsy showed marked changes in the supra-renal bodies, which may have been responsible for the intense pigmentation of the skin and the fatal issue.

Dr. SHERWELL said that Hebra would undoubtedly have pronounced this case pityriasis rubra, as he laid great stress upon the totality of the eruption. Another thing was that there had been such great advances in microscopic studies, that many differential problems were more or less intricate and interwoven one with another, with possible error. The general condition of this case, apart from the question of slight exudation or infiltration, would undoubtedly have led him to believe it pityriasis rubra. It seemed to him a classical instance of the condition which, under Hebra's guidance, he had learned to consider as pityriasis rubra.

Dr. ARNDT said that he did not wish to be misunderstood as to his conception of pityriasis rubra pilaris and lichen ruber acuminatus. They were quite different diseases, but there were cases clinically resembling pityriasis rubra pilaris, though histologically they proved to be not pityriasis rubra pilaris but true lichen planus. As to the pityriasis rubra referred to by Dr. Sherwell, he could only say that the

conception of pityriasis, rubra in this country was very much larger than in Germany. In American literature many more cases of this disease were reported than in the German or French literature, and evidently here the old Hebra conception was still accepted.

The possibility of this case being an unusual form of mycosis fungoides was not very great. The absence of itching would not prove so much as the fact that there had not been any retrogression. He had seen but one instance of a similar condition in Berlin, which he had studied for five or six years, without being able to reach a convincing conclusion.

Dr. Wise said that the man had never had any X-ray treatment, although the chest presented that appearance. He had taken arsenic, but only after these changes had already taken place.

SYPHILIS AND PERSISTENT HICCOUGH. Presented by DR. MACKEE for DR. FORDYCE.

Hicough had persisted for nine weeks in the subject presented, a woman of 40. She stated that the attacks came on frequently, especially during mental stress or worry, when she had the sensation or premonition of an attack of illness. The hicoughing was somewhat relieved when the patient was in bed. Sometimes the attacks ceased for an hour at a time. She had suffered for several years with gastric distress—eructations of gas, heartburn, etc., and frequently had attacks of vomiting after meals. Recently she had become emaciated. Ordinary measures were without avail to relieve her condition, nor did she derive any benefit at the hands of the neurologist.

Physical examination revealed a normally developed woman. The heart action was weak; rate, 104. The lungs were normal. Blood pressure: 115 to 125. Tongue coated, eyes somewhat prominent. The liver, spleen and kidneys were not palpable. The abdomen was slightly distended. There was no œdema.

The blood test revealed a positive Wassermann, after which vigorous anti-luetic treatment was instituted. She received six injections of salvarsan and a course of mercury injections. This resulted in a marked amelioration of her symptoms, although the singultus had not entirely stopped. She soon regained her normal weight and strength. A small mediastinal growth, or possibly a gumma, was suspected, and an X-ray picture of the chest was taken, but nothing abnormal was revealed. The reflexes were normal.

DISCUSSION.

Dr. Fordyce said that a case of paresis which had at one time come under his observation had a very obstinate attack of hicoughing, which lasted for a week and persisted day and night. The examination showed that the cerebral system was involved, and he thought that this woman should be examined with that in mind.

Dr. Sierwell asked if a laryngological examination had been made in the case, to determine whether there was some trouble arising from the recurrent laryngeal branch of the vagus. At one time he had seen a great many laryngological cases, and interference with that branch caused symptoms directly similar to those reported—partial or complete paralysis, with persistent cough and hicough, etc., relieved completely for a time by position. He could imagine an irritation from a tumor of some kind, possibly syphilitic as well as aneurysmal, causing the symptoms.

Dr. MacKee said that a careful neurological and physical examination had revealed nothing. A change of posture did relieve the patient somewhat, and the symptoms were most marked when the patient was standing. When lying down, they were relieved to some extent, especially when the patient was on her back. No cause could be discovered for the hicoughing, which lasted for several months

and grew worse until the specific treatment was instituted. A mediastinal tumor or a gumma had been suspected, which might be too small to be detected by physical examination, though it might be revealed by radiography.

NEVUS SPILUS. Presented by DR. ROBINSON.

The patients were three children of a family of five. Israel, age 9, with dark brown pigmented spots, varying from pin-point to small pea in size, flat, not raised above the surface. They were irregularly distributed. A few small lesions were around the inner canthus of both eyes; two of the lesions—small pea size—were on the right cheek. The large lesions were on the mucous membrane of the lower lip, as were a few on the upper; also some on the vermilion of the lower lip. Lesions were also to be seen on both cheeks of the buccal cavity.

Lily, age 5. The lesions were distributed about the same as those of Israel, with absence of any spots around the eyes, some being present on the chin and close to the lower lip.

Charlotte, age $3\frac{1}{2}$ years. All the lesions were confined to the lips and buccal cavity, but were not so large nor as numerous. The character of the lesions was the same in the three patients. All the children had dark skin. These lesions appeared about the same period of life on the three children, i. e., about six to eight months after birth.

These cases were presented on account of the appearance of the lesions at about the same period after birth, their similarity of size, color and distribution, and the fact that they occurred in three of a family of five children.

DISCUSSION.

DR. HOWARD FOX remarked that the lesions resembled the blackish pigmented spots seen in the mouths of dogs, and in persons suffering from Addison's disease.

CUTANEOUS AND OSSEOUS TUBERCULOSIS. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a man of 21, single, a native of Egypt. He had lived in this country since childhood. The duration of his disease was two years. He presented lesions on the hands, elbows and legs. On the right leg there were numerous sharply defined ulcerations, varying in size from a silver dime to a dollar, with purulent bases and unhealthy granulations. These ulcers were located chiefly over the tibia. Most of them were superficial, while others were attached to the underlying bone, resulting in the formation of sinuses which secreted a sero-purulent fluid. The tibia presented areas of periostitis and there was marked thickening of the ankle joint. The elbows and hands presented numerous sinuses connected with the bones. There was an abscess of the left ankle joint. An X-ray examination revealed nothing characteristic. The Wassermann test was negative. He was given tuberculin injections, which, however, had to be discontinued, on account of the severe local reactions, resulting in painful abscesses. The speaker said that the patient would be submitted to further serological and bacteriological tests and the results reported at a subsequent meeting.

BILATERAL HERPES ZOSTER. Presented by DR. MACKEE for DR. FORDYCE.

The patient, a man 51 years of age, presented a profuse eruption of zoster on the entire inner surface of the right thigh and leg, following the course of the crural nerve. On the left side of the chest, corresponding to the third and fourth intercostal spaces, there was a well-advanced band of herpetic vesicles, while a less marked eruption of vesicles was present opposite the last lumbar vertebra

on the right side of the back. The man gave a history of malarial attacks. No other aetiological factors were ascertained.*

ADENOMA SEBACEUM. (UNILATERAL.) Presented by DR. MACKEE for DR. FORDYCE.

The patient, a youth of 18, entered the clinic for the relief of tinea versicolor of the back. On the left side of the cheek, near the nose, he presented about a dozen pin-head to barley-corn-sized, flat, smooth, yellowish or brownish-red, semi-translucent, firm papules in which could be detected dilated capillaries. A few smaller lesions were noted on the chin to the left of the median line, and disseminated papules of similar appearance were also present on the chest and back. There had been some hesitancy about making a diagnosis of adenoma sebaceum on account of the unilateral distribution, but a biopsy with subsequent microscopical study revealed a typical histological picture of adenoma sebaceum. The duration of the eruption could not be ascertained. The patient, however, was under the impression that the lesions had developed within the last few years.

CASE FOR DIAGNOSIS. Presented by DR. TRIMBLE.

The patient, a young man, presented but one lesion and had never had more than two. It almost surrounded the meatus and was slightly infiltrated. The lesion that formerly existed on the top of the glans resembled seborrhœic eczema, although there were no eczema lesions on the body. The condition had existed for six years. The patient had been treated in various ways, but nothing seemed to be of any benefit. At one time it was thought that it might be a case of lichen planus.

DISCUSSION.

DR. MACKEE did not think it was a lichen planus lesion. He had seen a similar lesion on the penis of a youth, which persisted for six or eight months before the onset of psoriatic lesions on the body. Psoriasis limited to the nails was occasionally seen, and the possibility of psoriatic lesions limited to the skin of the penis was to be considered.

DR. WISE suggested the possibility of a tuberculous condition involving the meatus, mucous membrane and skin.

DR. ROBINSON, speaking of the duration of the lesion, said that he had described a case in which lesions on a man had existed, according to the statement of a patient, for eighteen years without change in character. It was very unusual for them to last so long. When occurring on the glans penis, they were very apt to take on the annular form and last for long periods, and he had no doubt this was a case of lichen planus.

DR. TRIMBLE replied that they had taken into consideration what Dr. MacKee had said about a localized psoriasis and also the possibility of its being either lichen planus or seborrhœic eczema, but that a tuberculosis orificialis, as Dr. Wise had suggested, had not occurred to them. He had seen localized psoriasis, and had had a patient with lesions on both elbows for many years which finally became a generalized eruption over the body. Another case was localized on the palms of the hands for twenty years. They had thought of lichen planus, but could not wake up their minds about it. One lesion, covered by many scales, rather yellow and somewhat greasy, had disappeared under treatment for seborrhœic eczema. The treatment had had no effect on the present lesion. Dr. Wise's suggestion seemed a good one, and would certainly be followed up, though certain theoretical objections immediately presented themselves. For instance, tuberculosis orificialis was a small ulcer, very superficial, and of a light yellow hue; the present lesion was infiltrated, scaly, and had never ulcerated. It was, of course, possible that it was a tuberculous lesion which had not yet ulcerated.

* Subsequent examination revealed the presence of neuro-syphilis.

NEW YORK ACADEMY OF MEDICINE.
SECTION ON DERMATOLOGY.

Regular Meetings, October, November and December, 1914.

WM. B. TRIMBLE, M.D., *Chairman.*

GRANULOMA NECROTICA. Presented by Drs. AITKEN and CLARK.

The patient was Miss E. R., aged 19 years, a Russian. History: negative as to tuberculosis in herself and family and she had always been a healthy girl. Two years ago the patient had "pimples" around her knees in hot weather. They healed when cool weather came in the fall, but left scars. One year ago, similar lesions came on the legs and arms, but healed again when cool weather set in. Five months ago, at the onset of warm weather, papules reappeared on the arms, particularly on the forearms and a few on the legs, and they persisted up to the time of presentation. The patient presented inflammatory papules, some of which were undergoing necrosis and many little punched-out, pitted scars, the whole picture being a very typical one of granuloma necrotica.

DERMATITIS HERPETIFORMIS BULLOSA. Presented by Drs. AITKEN and CLARK.

Mrs. S., aged 40; duration of trouble, two years. History: The patient stated that the eruption began as small papules on different parts of the body. These were soon followed by little blisters. Ordinarily, the skin became inflamed and a blister formed on this inflammatory base. The eruption had twice entirely disappeared from the skin, but had quite promptly relapsed. The fluid from the blisters had latterly sometimes become purulent. The patient had never had any blisters on the mucous membrane. The eruption was all over the body, was very itchy, and when in the midst of an attack, the patient had a slight rise of temperature, nausea, loss of appetite, malaise and took to her bed. The bullous character of the eruption so prominent in this case made it interesting.

CASE FOR DIAGNOSIS. Presented by Drs. AITKEN and CLARK.

Mrs. C. F., aged 40 years, Italian. Duration of trouble, four to six months. History: indefinite as to onset. The patient was generally well and strong. She had seven children living; three children died, one at seven and a half years of diphtheria, one at three and a half years with some febrile trouble, and one was born dead two years ago. Present condition: All over the body were dark, reddish-brown eruptions, pigmentary in character and slightly itchy. The eruption was seen on the front of the body in larger and smaller patches, presenting a mottled appearance and on the posterior aspect of the trunk, the eruption seemed to have run together, forming a solid pigmented condition. In these patches there were evidences of pin-point sized atrophies, which at first sight gave a lichenoid appearance. The face was chloasmic and the legs presented a follicular keratotic appearance. The patient stated that some of these areas had cleared up, leaving a very smooth white appearance, as seen above the right knee.

DISCUSSION.

Dr. Lusk said he had seen this patient last June and at that time she gave a history of having had trouble with the skin for about three months. She had taken large doses of arsenic and had distinct lichen planus lesions on various parts of the body. The pigmentation at that time was worse than it was now. He gave no more arsenic but biniodide of mercury instead, and a salve containing 5% of salicylic acid in diachylon ointment. She improved rapidly and the lichen lesions disappeared, as did also the itching.

Dr. POLLITZER said that the pigmentation on the nose was apparently chloasma. That on the body was of a different character, and he thought probably was arsenical.

Dr. TRIMBLE thought the case was one of pigmentation following lichen planus.

CASE FOR DIAGNOSIS. Presented by Dr. AITKEN for Dr. THIRONE.

Mr. A. C., aged 25, Italian. The onset of the disease appeared at about the age of six. It first appeared on the left side. At the time of presentation the flexures of the arms and legs, axillæ, back of neck and penis showed dark-colored papular elevations, seated on a reddened base; some tendency to linear arrangement was seen; some lesions were pedunculated, some acuminate; some could be rubbed off fairly easily, leaving a greasy base. On the back of the neck and on the dorsum of the left hand there were hard, deep red papules.

DISCUSSION.

Dr. AITKEN said that when this case was seen at the dispensary there was considerable discussion about it, and some had favored the designation of Darier's disease. He himself considered it an ichthyosis hystrix, of linear nævus type.

Dr. TRIMBLE said that the horny crusts in this case could not be removed without the production of pain and bleeding. He had seen several similar cases, and classed them with the group ichthyosis hystrix. It was simply a question of a choice of name, as there was little discussion as to the character of the lesion. He considered the term nævus inappropriate in a case like this. He did not claim that the disease in any way resembled ordinary ichthyosis.

Dr. LUSK said that he believed this was a nævus, and it was not detected early in life on account of the habit Italian women had of oiling their babies twice daily with olive oil, and that this treatment would conceal such a condition for the first year or two.

Dr. POLLITZER said that he objected to the name ichthyosis hystrix for this condition, because the disease was not an ichthyosis. The areas involved were not those commonly attacked in ichthyosis. He agreed with Prof. Arndt in regarding this as a systematized ichthyosiform nævus. Although the "Anlage" for a nævus was present in the fœtus, the visible lesion frequently did not appear till some time after birth.

LUPUS VULGARIS FACI. Presented by Dr. WISE.

J. S., 34, single, born in the United States, first noticed the beginning of the disease on his upper lip, about 24 years ago. The process spread rather rapidly, involving the upper and lower lips, the upper portion of the chin, both cheeks adjacent to the nose and extending on the left side to the malar bone. The nasal septum was attacked about fourteen years ago, resulting in its complete destruction, together with the lip and alæ of the nose. He had been treated in various hospitals, including the New York Skin and Cancer Hospital. He received Finsen treatment, X-ray, ultra-violet rays, and had been curetted at various times. The condition presented chiefly scar tissue. Family history: one brother died of pulmonary tuberculosis. No other member of the family of nine suffered with any form of tuberculosis. Personal history: the patient had never had syphilis. He had had measles in childhood, but no other illness.

DISCUSSION.

Dr. TRIMBLE said that the case before the Section was a boy who was treated by the X-ray for lupus some years ago. Most of the diseased area was apparently cured; the whole area was perfectly white at one time, and Dr. Trimble had a photograph showing this condition. At the time of the presentation this pigmen-

tation had practically all returned, which was a great surprise, as he had formerly thought that pigmentation lost after this method of treatment never returned.

DR. POLLITZER asked if it was usual in a negro for the skin to blanch under X-ray treatment.

TUBERCULOSIS CUTIS ULCEROSA. Presented by Drs. MacKEE and WISE.

M. C., aged 18, single, from Dr. Fordyce's clinic, was a native of Greece and a recent immigrant. Seven months ago, a small crusted lesion presented itself on the left ala nasi, soon followed by a similar lesion on the right side of the nose, which lesion slowly improved under treatment with external remedies, leaving a small reddened infiltration. Shortly after the skin was affected, the nares became crusted and stenosed by an infiltrating tissue alteration. The left side of the upper lip, including the skin and mucosa, became similarly affected, soon crusting over. Beneath the crusts, deeply ulcerated depressions formed, secreting tenacious purulent matter. The Wassermann reaction was negative. The family and personal history was negative.

DISCUSSION.

DR. TRIMBLE did not wish to disagree with the diagnosis, on one short examination, but there was one feature in the patient that he had not observed before in a case of this kind. It was the great amount of œdema surrounding the ulceration. As a rule tuberculosis ulcerosa lesions were very superficial, shallow ulcers without œdema or infiltration. He agreed with the former speaker that at first sight the lesion was very suggestive of chancre.

DR. LUSK said that when he first saw the case he thought it was an initial lesion, but this diagnosis was ruled out by the duration of seven months. He did not think it was tuberculosis, but probably a case of malingering.

DR. POLLITZER said that he believed this was a case of tuberculosis cutis.

ANGIOMA OF TONGUE, FACE AND NECK. Presented by Drs. MacKEE and WISE.

M. F., 17, single, from Dr. Fordyce's clinic, was a native of the United States. She presented an extensive angiomatous growth on the left side of the tongue and mucous membrane of the mouth. It also involved the tissues of the lower half of the cheek on the same side, and the skin of the neck, down to the clavicle. The patient had received CO₂ treatments to the lip and skin, with marked cosmetic improvement. She was still under active treatment.

DISCUSSION.

DR. CLARK said that he considered this an excellent case for treatment with radium. He had a similar case for treatment which had responded well, the first effect of treatment being the disappearance of tortuous vessels over the surface, followed by a gradual diminution in size.

LEPRA. Presented by Drs. TRIMBLE and BECHET.

J. T., a male adult, presented for examination a macular eruption on the body, and a considerable number of nodules on the face and hands. There were also some areas of anæsthesia. The condition had been present for two years. The patient had been in the United States the past three to four years.

TUBERCULIDE. Presented by Drs. TRIMBLE and BECHET.

H. G., aged 29, first noticed the eruption on the arms two years ago. The patient presented for examination several ulcerated lesions, with necrosed centres, and extensive scarring from previous ulceration. On the arms, near the elbows, were a number of raised, indurated nodules.

DISCUSSION.

Dr. POLLITZER said that some of the lesions were sufficiently characteristic of tuberculide. The large size and the hæmorrhages were both rather unusual features, but had been noted before.

TUBERCULOSIS CUTIS ULCEROSA. Presented by Drs. TRIMBLE and BECHET.

J. S., aged 18, first noticed the condition about one year ago. It had increased rapidly since. He presented for examination a bright red, ulcerated, fungous-like eruption, covering the alæ and tip of the nose. Two Wassermann reactions proved negative.

LICHEN PLANUS HYPERTROPHICUS. Presented by Drs. MacKEE and WISE.

The patient was a man of 58, who presented a large patch of hypertrophic lichen planus, together with several satellite patches, on the lower part of the right leg.

PARAPSORIASIS LICHENOIDES CHRONICA (BROcq). Presented by Dr. WISE.

The patient was a male, aged 35, from Beth Israel Hospital. He was afflicted with a maculo-papular and slightly scaly eruption on the trunk; the duration was two years. The condition was resistant to all external and internal remedies, including arsenic and chrysarobin. The Wassermann reaction was negative. He had been previously presented before the N. Y. Dermatological Society.

DISCUSSION.

Dr. POLLITZER briefly sketched the literature of this subject, beginning with the first case published by Unna, Santi and himself in 1890, under the title of parakaratosi variegata. Many cases had been described since that time by others, and Brocq divided the whole group into three types. The principal changes were confined to the epidermis. It was essentially a chronic and extraordinarily resistant dermatosis. He objected to the name parapsoriasis, as the disease had no relation whatever to psoriasis.

LICHEN CHRONICUS CIRCUMSCRIPTUS (VIDAL). Presented by Drs. MacKEE and WISE.

The patient, a male, aged 50, from Dr. Fordyce's clinic, had a patch of indurated plaques in each popliteal area for the past ten years. He also showed small psoriatic patches on the elbows.

TUBERCULIDE. Presented by Dr. PAROYNAGIAN.

The patient, a male, aged 18, was born in Russia; the duration of his skin condition was about four weeks. The lesions consisted of necrotic papules, bluish in color, entirely confined to the lower extremities. The family history was good; both parents were living; he had four brothers and four sisters, all living. He was apparently in good health, though both extremities were cold and cyanotic.

DISCUSSION.

Dr. POLLITZER said that this case was not a tuberculide but neither did he consider it an eczema. The small disseminate lesions on the extremities were pustules or scabs and stains left by pustules. Many of them were seen to be central over a hair follicle and the disease was evidently a folliculitis.

GUMMA OF THE NOSE. Presented by Dr. PAROUNAGIAN.

This case was shown before the Manhattan Dermatological Society in November, 1914.

DISCUSSION.

Dr. HEIMANN called attention to the curious location, on the tip of the nose, and to the destruction of cartilaginous tissue. The features were more suggestive of a fulminating lupus than of syphilis. The positive Wassermann reaction, however, and the rapid improvement under salvarsan and mercury were enough to establish the diagnosis.

SUPPURATION FOLLOWING HAIR IMPLANTATION. Presented by Dr. LAPOWSKI.

This patient came to the speaker in August, 1914, with the following symptoms: the scalp was covered with suppurative folliculitides, each suppurating follicle pierced by a hair. The whole scalp oedematous, infiltrated, painful to the touch. Pus could be pressed out of some of the follicles. Some of the hairs were very firmly attached and some could be easily extracted, having on the ends of the hair a very small golden hook with an eyelet, through which the hair passed like a thread through a needle, each hair being doubled after passing through the eyelet. The patient related that in June, 1914, having partial alopecia of the scalp extending from the os frontis down to the occipital bone, hairs were implanted in the hairless portion of the scalp, in Budapest, by Dr. Szekaly. This was done in ten sittings, each lasting about two hours; during the process of the implantation there was no severe pain.

The speaker said that the process was described by Havas in the *Archiv für Dermatologie und Syphilis*, 1912, cxii, p. 529.

After leaving Budapest, on his way to New York, the folliculitis started. Day after day more follicles became involved.

Dr. Friedman and the speaker extracted many hundreds of hairs, some with the hooks and some without, the hair breaking during extraction. Only local application of hot water and some subcutaneous injections of hot water were used to alleviate the pain.

DISCUSSION.

Dr. FRIEDMAN said that he observed that in these cases the space between the two arms of the loop of hair was always open. He had observed the sepsis spread to hairs which were apparently clean at the first visit.

Dr. POLLITZER said that the result sometimes obtained by this method was a monument of patience and mechanical skill. It was not strange that hair should remain on the scalp if once firmly implanted there, as hair was one of the most resistant of all substances and will last for centuries. If infection were avoided, there was no reason why the hair thus implanted should not remain indefinitely. Bullets and shot from gunshot wounds commonly became encapsulated in the tissues; the little gold-wire loops implanted aseptically would naturally remain where placed.

Dr. TRIMBLE said that folliculitis spread so easily over the scalp, and the organisms travelled so easily along the hair shaft, that in a scalp which had been subjected to this treatment folliculitis which had once taken root would probably spread with great rapidity.

LICHEN PLANUS. Presented by Dr. BECHET.

M. J., aged 50; the eruption first appeared five months ago, on the hands, then quickly spread to the trunk and legs. He presented for examination an extensive lichen planus, with a number of annular lesions on the arms and legs, which formed geometrically correct circles.

ACNE VARIOLIFORMIS. Presented by DR. BECHET.

L. L., aged 41; the eruption first appeared four years previously. He presented for examination a number of necrotic lesions, with sharply punched-out scars, especially marked on the nose. The case was interesting because of the extensive scarring, and the depth of the scars on the nose, some of which easily measured an eighth of an inch in depth.

LUPUS ERYTHEMATOSUS. Presented by DR. KINGSBURY.

C. A., a female, colored, aged 35. The woman was the mother of a healthy boy and there was no history of miscarriages. About one year ago a small scaly patch appeared on the left cheek and soon increased in size and extended to the nose and right cheek. Later lesions appeared on the scalp, ears, back and fingers. The Wassermann reaction was positive, but there had been no change in the cutaneous lesions after several months of active antisyphilitic treatment.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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Assisted by

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DERMATOLOGISCHE WOCHENSCHRIFT.

(Nov. 21, 1914, lix, No. 47.)

Abstracted by MAX SCHEER, M.D.

SALVARSAN, A TRUE DYE. J. SCHUMACHER, p. 1295.

The author discovered a new test for salvarsan in the urine; and while attempting to make use of this test as a quantitative colorimetric estimation of the amount of salvarsan in the urine, made the observation that salvarsan acted physically like a true dye.

After adding the reagent to the urine and filtering through animal charcoal (in order to eliminate the intrinsic color of the urine as a factor in the color reaction), the author was surprised to find that the filtrate gave no reaction for salvarsan; the same happened when an ordinary solution of salvarsan was filtered through animal charcoal. This could only happen if the salvarsan was absorbed

by the charcoal. This is a characteristic of nearly all organic dyes. Thus it is evident that salvarsan acts physically like a dye.

Chemically, a dye shows the following characteristics:

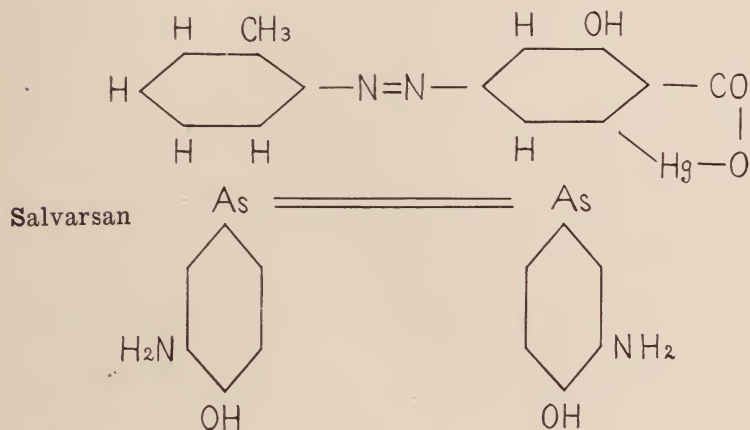
1. The presence of one or more aromatic nuclei.
2. The presence of at least one group of doubly bound atoms, a so-called "chromophore," e.g., $C=O$.

3. The presence of an "auxochrome" group, which can form salts.

Salvarsan, as shown by Abelins, contains all three, so that chemically it is also a dye.

This fact is of importance in understanding the varied action of salvarsan in different infectious diseases. Wassermann's theory of a dye acting as a guide for the poison which it contains to reach the diseased cells, receives a new confirmation from the chemistry and biology of salvarsan.

The author compares salvarsan with toluolazo-mercury-silver-salicylic acid, a dye in which the poison, in this case mercury, is not an essential part of the dye, but is added to a side chain; when injected into the body it is easily split off and will not reach the diseased cells, while the dye will; this accounts for its uncertainty of action. On the other hand, in salvarsan the arsenic is an essential part of the dye, not in a side chain, and must reach the diseased cells with the dye. These points are best shown in the chemical formulæ of the two substances.



Microorganisms, which stain easily, as spirochætæ, anthrax bacilli, spirilla of recurrent fever, etc., are more readily destroyed by the arsenic in the dye, whereas poorly staining organisms, as tubercle and lepra bacilli, are practically uninfluenced.

The author concludes that:

1. Salvarsan is to be considered, physically as well as chemically, a real dye, because, like almost all organic dyes, it is absorbed by animal charcoal and it fulfills the chemical requirements of a dye. It contains two aromatic rings: a chromophore, in this case $-As=As-$, and auxochrome groups.

2. Salvarsan is an arsenical dye, and not merely a dye containing arsenic, for the arsenic is not substituted in the molecule of the dye, but as chromophore is part of the dye itself. Thus we are assured that in such a combination the poison is carried to its goal by the dye as a guide, in contradistinction to other dye combinations, which can be so changed through chemical processes in the body that the poison is either split off or changed into therapeutically inefficient compounds.

3. The varied action of salvarsan in various diseases can be explained on a

physical basis. For example, salvarsan cannot enter the bodies of tubercle bacilli on account of the waxy substances they contain; recurrences in malaria are accounted for by the inability of salvarsan to penetrate the red blood cells, whereas the parasites circulating in the blood are killed by the arsenic.

4. In the synthesis of new dye combinations which are to act as guides for conveying poisonous substances, we must attempt to make the poison an essential part of the dye, that is, a chromophore.

That such combinations are possible, Ehrlich has shown in a masterly manner in the synthesis of salvarsan.

(*Ibidem*, Nov. 28, 1914, lix, No. 48.)

CONCERNING THE INFECTIOUSNESS OF THE BLOOD IN THE LATENT STAGE OF ACQUIRED SYPHILIS. RICHARD FRÜHWALD, p. 1319.

The author cites thirty-five cases of latent syphilis, from whom blood was inoculated into the testicles of dogs. Cases were considered latent who showed no clinical manifestations of syphilis, even though the Wassermann reactions were positive. The results were positive in two cases, dogs showing sclerosis in the testicles and presence of spirochætæ. In the patients whose blood gave positive results, the duration of the disease was one year and one and one-half years respectively, and the last treatment eight and ten months, respectively, before the inoculation. Of the cases whose blood gave negative results, the duration of the disease varied from eleven months to six and one-half years, and most had a positive Wassermann reaction. As a result of this work, the author concludes that spirochætæ may be present in the circulating blood of syphilitics in the early, latent period, and suggests that surgeons take due care in operating on such cases, to avoid infection.

(*Ibidem*, Dec. 5, 1914, lix, No. 49.)

EXPERIMENTAL XANTHOMA. A. J. LEBEDEV, p. 1343.

The author reviews the literature of experimentally produced xanthoma, and then gives the results of his own investigations of the subject. His results correspond, to a considerable extent, to those of other authors.

Rabbits were fed for a period of three and one half months with cholesterin, and in this manner a hypercholesterinæmia was produced, which reached a degree of 3.7 grammes pro litre, which is about 2 grammes less than the hypercholesterinæmia found in human beings with xanthoma lesions. The author injected a 10% solution of sodium hydroxide into the derma of these cholesterin-fed rabbits, and made microscopical examinations of the inflammatory area both at its centre and periphery. From five to seven days later, certain areas of the skin were rubbed with a brush and then threads soaked in caustic potassium hydrate were inserted into the derma, thus producing an artificial erythema and the presence of a foreign body.

In lymphocytes, fibroblasts and polyblasts, polynuclear leucocytes, eosinophiles and mast cells occurring in the infiltrations, as well as in the capillaries and larger vessels, the author found doubly refractive masses, composed of small crystals.

The endothelium of the vessels contained, in its protoplasm, drops of a lipoid substance (spherical crystals), and in certain areas of the section the extrusion of these crystalline masses through the injured walls of the blood vessels into the surrounding tissues could be seen. In many places enormous masses of an anisotropic, doubly refractive substance in the form of small crystalline masses could be seen between the cells. In the entire inflammatory area there were large macrophages whose protoplasm was filled with crystals of a cholesterin ester; these

crystals were of various sizes and forms. These were the true "xanthoma cells." Similar crystals were present in the protoplasm of the fibroblasts.

On the basis of the above findings the author establishes the possibility of the experimental production of a granuloma with the deposit of a doubly refractive lipid substance in the macrophages, deposits of this substance in the derma, especially near the blood vessels, in the intercellular infiltrate, in the fixed cells of the connective tissue as well as in the endothelium of the blood vessels. As a result, experimental xanthoma is produced, which is localized in the cutis, and speaks strongly for the infiltration theory of its production.

(To be concluded.)

(*Ibidem*, Dec. 12, 1914, lix, No. 50.)

THE STAINING OF THE CILIA OF TREPONEMA PALLIDUM. ARTURO FONTANA, p. 1367.

In order to stain the cilia of the treponema pallidum the author devised the following procedure:

1. The material to be examined is spread in a thin layer on a cover-glass, dried in the air and fixed for one-half hour in absolute alcohol.

2. The following solution is poured on cold and allowed to remain one minute:

40% commercial formol	2.
Glacial acetic acid	1.
Distilled water	100.

3. The preparation is washed in running water and a few drops poured on, of a mixture of equal parts of a saturated watery solution of picric acid and a 25% watery solution of tannic acid; warmed over a weak flame till it steams slightly, permitted to remain on five minutes, that is, till it cools, and then thoroughly washed.

4. Finally, a few drops of the following preparation are poured on:

Silver nitrate, 1 gram; distilled water, 100 grams, and ammoniac sufficient to cause a marked clouding of the solution and the formation of a thick brown precipitate.

The preparation is then warmed over a weak flame till it steams, carefully washed and mounted in Canada balsam, in which it will remain unchanged for several months.

By the above method the author demonstrated cilia in the spirochætæ from a syphiloma of the testicle of a rabbit, inoculated from another rabbit; these cilia varied in length from one to seven windings of the body of the spirochætæ, were either straight or spiral, were present at either one or both ends of the germ, were exceedingly thin and stained weakly, yet sufficiently to be photographed. In most of the specimens the cilia were not pointed at the ends, but terminated in a more or less developed, moderately well-stained club-shaped swelling, three or four times the thickness of the cilia itself. Similar findings were demonstrated in cilia of spirochætæ stained by Loeffler's method as a control, so that precipitation of the stain could be excluded as a cause of their production. To the author's knowledge, this observation has not been made before.

The author suggests that these club-shaped endings of the cilia of spirochætæ may represent a phase of the life cycle of the organism or an agonal degeneration phenomenon.

(*Ibidem*, Dec. 19, 1914, lix, No. 21.)

STUDIES ON THE OCCURRENCE OF DERMATOMYCOSES IN BERLIN. W. FISHER, p. 1391.

For the past four years the author examined culturally cases of dermatomycoses coming under his observation. These were divided into two groups. (1) Trichopy-

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ton and favus group, and (2) Epidermophytes (*eczema marginatum*). In the first group, 85 cultures were made.

Trichophyton cerebriforme was present in 80% of this group. In 31 cases there were deep sycotic lesions on the bearded part of the face, in 15 superficial lesions on same. Twice there were herpes tonsurans-like lesions of the scalp and seven times of the glabrous skin. In some cases there were lesions on the glabrous skin which were lichenoid, and difficult to diagnose. Infection occurs from shaving or contact, not from animals.

Trichophyton gypsum asteroides was seen in 8 cases, one undoubtedly infected from a horse.

Mouse favus (*Achorion Quinckeanum*). Fifteen cases were examined; one had the clinical appearance of favus; 12 cases were of herpes tonsurans formis and occurred among girls employed in a manicure establishment.

Trichophyton violaceum. There were 5 cases, 3 in Russians. On the hairy regions the lesions were chronic, pustular and follicular; elsewhere, of herpes tonsurans vesiculosus type. The mode of infection was uncertain.

Of favus there were 2 cases, both in natives; favus in Berlin is almost always seen only among Russian or Austrian immigrants.

Trichophyton faviforme album (?). There were 2 cases. This form is hard to cultivate; cultures grow only in liquid media.

Epidermophyton inguinale (eczema marginatum). There were 31 cases, of which 11 were limited to the inguinal region. They occurred in two forms. (1) numerous, diffuse, erythematous and scaly plaques, and (2), herpes tonsurans form. The epidermophyton infection was frequently seen in institutions, infection occurred from moist compresses, bath utensils, etc. Cultures made from the lesions in their early stages cannot be differentiated from trichophyton, and show long straight mycelia with few septa. In the chronic stages the mycelia are crooked and septated, lie between the cells and never affect the hairs. Early cultures are grayish-white, later cultures show a greenish-yellow tint.

EXPERIMENTAL XANTHOMA. A. J. LEBEDEV, p. 1372. (*Concluded.*)

The author injected solutions of cholesterin into the derma of rabbits, and studied sections of the skin made at intervals of twenty-four hours, three days, one month, and two and one half months following the injection.

Sections made twenty-four hours after the injection showed an infiltration of the derma with lymphocytes, fibroblasts and mast cells, and cholesterin crystals lying between the cells of the infiltrate.

Three days after the injection, the findings were the same, but with the addition of large phagocytes, containing small amounts of cholesterin compounds.

One month after injection, the microscopical picture was characterized by the presence of many large macrophages, many with double nuclei and vacuolated protoplasm and containing cholesterin crystals. There were also fibroblasts.

Two and one half months after injection, sections showed degeneration of the macrophages, the extrusion of the contained cholesterin. Fibroblasts surrounded the areas of dead macrophages.

The author interprets these changes as due to the inability of the macrophages to remove the cholesterin from the tissues, especially when the cholesterin is constantly being deposited from the blood. Nature then does the next best thing; the crystalline bodies of cholesterin, just like foreign bodies, are surrounded by fibroblasts and walled off. This practically prevents the removal of the cholesterin compounds and accounts for the chronicity of the lesions as seen clinically, viz., years or even a life time.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Nov. 26, 1914, xl, No. 48.)

Abstracted by CLARENCE ALLEN BAER, M.D.

TREATMENT OF FURUNCULOSIS. SCHULE, p. 2006.

Schule advocates actual cauterization of a furuncle after local anæsthesia with 2 per cent. novocain.

(*Ibidem*, Dec. 24, 1914, xl, No. 52.)

HYPERIDROSIS OF THE FEET. H. ALTHOFF, p. 2127.

The author recommends the following prescription painted on the feet three consecutive nights:

Formaldehyde, 35 per cent.

Distilled water, equal parts.

A series of three applications will keep the feet in comfortable condition for four to six weeks, when the applications can be again applied for two or three consecutive nights.

(*Ibidem*, Dec. 3, 1914, xl, No. 49.)

EXPLANATION OF THE CAUSE OF PARENCHYMATOUS KERATITIS
CAUSED BY THE SYPHILIS SPIROCHÆTE, AS ANNOUNCED
BY SCHERESCHEWSKY. F. SCHIECK, p. 2039.

Schereschewsky grew an anærobic culture of spirochætæ in sterile horse serum and transplanted same on the scarified cornea and sclera of a rabbit. The fourth week thereafter a redness that he called conjunctivitis appeared, and a week later a typical parenchymatous keratitis without pannus formation, which soon disappeared, was observed. Schieck states that horse serum without any culture will produce similar changes in a rabbit's eye. This is called anaphylactic keratitis.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(June 16, 1914, lxi, No. 24.)

Abstracted by ARTHUR WM. STILLIANS, M.D.

A METHOD FOR THE RAPID PRODUCTION OF ABSOLUTELY STERILE
SALT SOLUTION FOR INJECTION, ESPECIALLY FOR SAL-
VARSAN. K. TAEGE, p. 1325.

The dermatological clinic in Freiburg (Prof. Jacobi) has for two years and a half used this method to obtain sterile salt solution, and has had with it excellent results. It saves time and expensive apparatus for distillation. A glass or china or crockery vessel is cleansed and sterilized by swabbing out with strong hydrochloric acid. Into this is poured 2.5 gms. of strong hydrochloric acid for every gram of sodium chloride required in the solution. To this acid the water is added at boiling temperature, a very few drops of 1% alcoholic phenolphthalein solution are added as indicator, and sodium hydrate solution, or, in an emergency, sodium carbonate, added to a distinct pink color. Normal salt solution so made is strictly sterile, even though the water used to prepare it was very much infected. The acidified water can be kept sterile for any length of time, even when not covered.

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If the tap water contains calcium, magnesium, manganese or iron, it must be previously treated by alkalization, boiling five minutes, and after standing 24 hours, filtering to remove the colored slime which forms. Thus the danger of precipitation of the hydroxides of the metals mentioned is avoided.

If old salvarsan is to be given, it can easily be dissolved in the acid solution previous to neutralizing. As a precaution against over-alkalinization, the author recommends diluting the official sodium hydrate solution with a like amount of water. (This precaution is not needed in this country, for the German solution of sodium hydrate is 15%, ours only 5%. The calculation for hydrochloric acid has to be changed to fit the stronger HCl here, about 31% against their 25%.—Reviewer.)

THE DEATHS FROM SALVARSAN AND THEIR CAUSES WITH RESPECT TO SALVARSAN INJURIES. A. SCHMITT, p. 1337.

On the basis of a book by V. Mentberger, entitled "Two Hundred and Seventy-four Deaths from Salvarsan," the German newspapers have contained many articles attacking salvarsan. Schmitt attempts to review impartially the material on which Mentberger's book is founded. He first rules out 7 cases which are repetitions, one which was treated with the Mouneyrat preparation and not with salvarsan, and 35 cases which cannot be found in the literature on account of faulty references or because the report is so deficient that no judgment of their connection with salvarsan can be made.

Of the remaining 231 cases, 59 died, in all probability, from the illness for which they were being treated, or from intercurrent disease or accident. The other 172 cases he reviews according to the organ affected or supposed to be affected by the salvarsan.

In connection with the heart and circulatory system, 5 cases died soon after the injection from the added strain on a severely diseased heart or blood vessels of a largely increased volume of circulating liquid, a physical effect having no connection with the properties of salvarsan. Another died during the injection from the rupture of an unsuspected aneurism of the descending aorta. Three cases which were injected are also excluded, as is one that died of an aneurism six weeks after injection.

Of the few cases remaining in this group, all of them showed at autopsy grave disease of other vital organs, so that it could not be said that they died from the effect on the circulatory organs alone. Most of them occurred in the early days of salvarsan, and serve as warnings that the dosage must be very cautious in all such cases, and that they should never be treated as ambulatory cases. The harmful effects of the previous use of alcohol must always be carefully considered.

The alkaline and neutral solutions of salvarsan have no harmful effect on the blood or blood-building organs; but the acid solution causes pulmonary emboli and should never be used. The author protests against including 4 cases of pernicious anæmia which died after salvarsan treatment, being blamed to the drug.

Lung injuries from salvarsan consist of emboli, resulting, except in the cases already cited, in which the acid solution was injected, from local thrombi in the cubital vein or in the neighborhood of necroses from the intramuscular injection. Too large doses in pulmonary tuberculosis have caused a number of deaths.

The only connection between salvarsan and lesions of the stomach and intestines is the fact of the death of two cases from the perforation of gastric ulcers on the seventh and fifteenth day after injection. The dosage should be cautious in all cases in which gastric or duodenal ulcer is suspected.

In all cases in which liver complications can be diagnosed, the dose of salvarsan should be a very careful one. Even the passive congestion due to heart disease can cause trouble. Of the 4 cases of acute yellow atrophy following the use of salvarsan, only one is to be blamed to the drug; the others are probably

due to syphilitic recurrences taking this form. A tabetic who had taken 0.2 gm. intravenously, without reaction, died soon after a second dose of 0.6 gm. At the necropsy a central hæmorrhagic necrosis of the liver lobules was found. This is not surprising, considering the large dose.

Kidney injuries due to salvarsan have caused death; but only in cases of too high dosage, too frequently repeated injections, or in cases in which the kidneys were already irritated or crippled.

(To be continued.)

THE SALVARSAN TREATMENT OF ANTHRAX. L. BUBERL, p. 1340.

The first report of the cure of a severe case of anthrax by salvarsan was made by G. Becker. Shuster showed that salvarsan given rabbits at the same time as a lethal infection with anthrax bacilli, saved the rabbits. Laubenheimer cured anthrax in guinea pigs with salvarsan. Bettmann and Mokrzeki report cases of anthrax in the human cured by salvarsan. To this series Buberl adds a case of anthrax infection of the eyebrow of a young woman, probably from trying on hats infected from fur. On the third day the diagnosis was made bacteriologically, but blood cultures were not successful; 0.6 gm. salvarsan was given intravenously. Two hours later, great restlessness and vomiting occurred; but five hours after the injection the patient began to get better, and from that time on made rapid progress. In a few days she was fully recovered, with only a depressed scar at the site of the lesion.

The author considers that in view of the location of the lesion on the head, the great involvement of the lymphatic system shown by the immense swelling, the chills and the very rapid pulse (152) and the rapidly increasing general symptoms, the case must be considered as a severe one, in spite of the negative blood cultures. In a review of the other cases treated with salvarsan he concludes that salvarsan is a valuable means of combating beginning anthrax and that the good results appear more or less promptly as the size of the dose compares with the severity of infection at the time of treatment.

(Ibidem, June 23, 1914, lxi, No. 25.)

THE RELATION OF GENERAL NERVOUS SYMPTOMS IN THE EARLY STAGE OF SYPHILIS TO THE FINDINGS IN THE SPINAL FLUID. W. WECHSELMANN and E. DINKELACKER, p. 1382.

In the second volume of "Salvarsantherapie," Wechselmann pointed out that the nervous disturbances in early syphilis are not, as Finger maintained, symptoms of arsenic poisoning from salvarsan, but the symptoms of syphilis itself and the regular precursors of the neuro-recurrences. Such symptoms as headache, insomnia, rachalgia and rheumatic pains, muscular weakness, general malaise, psychic changes, dizziness, nausea and vomiting, spots before the eyes, ringing in the ears, cardiac palpitation and disturbances in the distribution of the trigeminus, facial and olfactory nerves should never be slighted in the case history of syphilis.

The present paper concerns an effort to determine what relation these symptoms bear to actual syphilis of the central nervous system. To this end the spinal fluid was tested by the Nonne test, the Lange gold reaction, the Wassermann reaction and the cell count. In 40% of 221 cases whose spinal fluid was examined before treatment was begun, spinal fluid changes were associated with the nervous symptoms. In 27% a pathological spinal fluid was found in the absence of nervous symptoms, and in 14% a normal fluid in the presence of nervous symptoms. In only 14% were spinal fluid changes and symptoms both absent. In the cases without nervous symptoms the fluid changes were, when present, usually slight. The lack of symptoms on the one hand and the presence of a normal

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spinal fluid on the other, cannot be taken as a guarantee of a normal central nervous system.

CONTRIBUTION TO THE EARLY SEROLOGICAL DIAGNOSIS OF CARCINOMA BY THE ABDERHALDEN DIALYZING REACTION. A. SCHAWLOW, p. 1386.

The writer upholds the dialyzing test as of great value in the diagnosis of carcinoma and sarcoma. Of 64 cases of malignancy, only 4 gave negative reactions, mostly in cachectic cases shortly before death. He obtained his strongest reactions in the early cases. Of 25 controls, 6 gave strong positive reactions, 4 cases of nephritis, a case of carbon dioxide poisoning and a case of pulmonary tuberculosis. He claims that by using several fundaments for each serum, gastric, mammary, hepatic and uterine carcinomata and several sarcomata, he can with fair accuracy tell in which organ the patient's tumor is located, from the marked reaction with one of the fundaments.

DEATHS FROM SALVARSAN AND THEIR CAUSES WITH RESPECT TO SALVARSAN INJURIES. A. SCHMITT, p. 1396. (*Concluded.*)

On the relation of salvarsan effects to deaths caused by metabolic disturbances, the author grants that salvarsan causes an œdema of the tissues, which is in part the reason for the increase in weight so often noted after its administration. He doubts, however, the justice of blaming the drug for the two fatal cases cited. In a third, status thymico-lymphaticus was present, and the part that salvarsan plays in the death of these cases is still undetermined. The same is true of the fatalities in the cases of diabetes. In all these cases the dosage must be carefully adjusted to the general condition of the patient and the grade of the metabolic disturbance.

No particularly evil effect on pregnancy can be claimed. In one case mentioned by Mentberger, abortion occurred 19 days after the injection of salvarsan, and the woman died on the fifth day thereafter, of double pneumonia. Schmitt suggests the possibility of a septic abortion.

The action of salvarsan on pathological tissues is exemplified by the Herxheimer reaction in syphilis. A similar reaction on tuberculous tissue may result in dissemination of the infection, and miliary tuberculosis. Malignant tumors give a similar reaction, which may be dangerous if the tumor presses on a vital part.

A personal idiosyncrasy must be held responsible for some of the reactions; but a much larger class of cases are those with toxic effects due to overdosage. The author reviews several cases of this sort and rejects the claim of Wechselmann that most of the skin reactions blamed to salvarsan are due instead to mercury.

In syphilis of the nervous system the danger of overdosage is especially great, and most of the deaths in this category are due to overdoses or to the fact that the salvarsan was given too late to help them. He points out that the dose in these cases must be only a fraction of that given ordinarily, and that a single dose can have only an irritating effect. Improvement is obtained only from repeated small doses. Herxheimer reactions also are responsible for many deaths in this class of cases, and a number of interesting cases are reviewed. Neuro-recurrences are seldom the cause of death; but a few of the earlier ones, which were not understood and treated, died. About 11 cases of this class proved entirely resistant to treatment and died. That these recurrences are much commoner since the advent of salvarsan than they were formerly the author has no doubt, and grants that clinically it seems as though salvarsan had increased the susceptibility of the nervous system.

In the large and important group of cases in which death follows signs of

meningeal irritation, epileptiform attacks or coma, Mentberger has 87 cases. They are of importance because they have not been satisfactorily explained and because they still occur in spite of all precautions. The author rejects the theory that they are due to the combination of salvarsan and mercury, and also that they are due to faults of the water. He inclines to the theory that the encephalitis hæmorrhagica which is found in most of these cases is due to the action of salvarsan on a latent or developing nervous lesion.

Thanks to the unpleasant experience of these cases of death after salvarsan, we can now guard our patients against most of the unpleasant or dangerous reactions.

(*Ibidem*, June 30, 1914, lxi, No. 26.)

VACCINE THERAPY OF CHRONIC FURUNCULOSIS OF THE SKIN.
T. MESSERSCHMIDT, p. 1441.

A report of 16 cases of chronic furunculosis treated with autogenous vaccines only, with the cure of 14 of them in from 10 to 14 days. The dosage ranged from 30 to 80 million, given every second day. A case of generalized furunculosis in a marasmic infant and one of necrotic acne in an adult did not yield to this treatment.

(*Ibidem*, July 7, 1914, lxi, No. 27.)

INTRADERMAL AND CONJUNCTIVAL REACTION OF PREGNANCY.
D. A. DE JONG, p. 1502.

The author says that if he had not seen the report of Engelhorn and Wintz on a new skin reaction in pregnancy, he probably would not have reported his work along the same line, as his results were too indefinite. He tried out the intradermal and conjunctival reactions in cows with extracts of the foetal as well as of the maternal part of cow placenta. No diagnostic value was found in the test.

THE USE OF SMALL DOSES OF SALVARSAN IN SECONDARY ANÆMIA AND DISTURBANCES OF NUTRITION. K. KALL, p. 1506.

Small doses, 0.05 of old salvarsan or 0.075 gm. of neosalvarsan, were given intravenously twice a week to a number of cases of anæmia, secondary to tuberculosis and other anæmias associated with psoriasis, lupus vulgaris, furunculosis, eczema and gonorrhœa. In the severe cases of tuberculosis the treatment did harm, apparently, instead of benefiting. In the mild and moderately severe tuberculosis and in the other secondary anæmias the blood was improved, and the patients gained weight and improved in spirits. One case of pernicious anæmia was not materially benefited. Several severe and resistant cases of psoriasis were greatly improved; but one resistant case was given 32 injections without entirely clearing up. In one case of dermatitis herpetiformis, 6 injections resulted in subsidence of the lesions, and no new ones have appeared to the date of writing, two months since treatment.

Nine cases of lues were also treated with these small doses with excellent results. These will be reported in detail later. The author recommends these small doses in series of 10 or 15 doses, as not dangerous; but easy to give and effective in increasing body weight, causing a sense of well-being and improving the blood findings.

A CONTRIBUTION TO THE DERMATOSES OF HYSTERIA. ANTONI,
p. 1513.

A description of an interesting case of self-inflicted injury, with remarks on the best method of handling these cases.

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SHOULD PROPHYLACTIC SALVARSAN TREATMENT BE USED IN CASES OF ULCUS MOILE? E. HOFFMANN, p. 1516.

In answer to the suggestion of H. Mueller, in No. 24 of this volume of the *Muenchener Medizinische Wochenschrift*, to give abortive treatment with salvarsan to every case of soft ulcer, Hoffmann states that uncomplicated soft ulcer is much commoner than Mueller seems to think. The careful search for spirochætæ in the primary lesion, or if this has been cauterized, in the fluid obtained by puncture of the base of the lesion or of the swollen glands and the repeated serum test, will make diagnosis sufficiently accurate. In this connection he warns that the Wassermann reaction can be weakly positive in soft ulcer for a short time.

The abortive salvarsan treatment, if used in every case of soft ulcer, would increase the difficulty of diagnosis, and the gain, if any, would be much more than offset by this. We need to impress on the general practitioner the necessity for a sure diagnosis of syphilis before instituting treatment. The practice of treating all suspicious lesions for syphilis is already too common without the encouragement of support from authorities like Neisser and Kaposi.

(*Ibidem*, July 14, 1914, lxi, No. 28.)

CONCERNING GONORRHŒAL GRANULATIONS. G. STUEMPKE, p. 1559.

A description of six cases of the cock's-comb-like growths occurring on the perineum and about the anus of women with gonorrhœa. These were first described by Klingmueller in 1910, and the present author thinks that his is the first report of such cases since the original one. The tumors have a broad base, are smooth and shaped like a rooster's comb, and vary in color from pale to bright or bluish red. They occur only in connection with gonorrhœa and are often, but not always, associated with ulcers, which the author believes secondary to the tumors. In 5 of the 6 cases gonococci were found in the expressed juice of the tumor or in its superficial layers. None of his cultures succeeded. The "granulations" can be differentiated from hæmorrhoids, with which they were associated in several cases, by their broad bases and the fact that they have no tendency to bleed. From flat condylomata, they are to be distinguished by the rough, cracked surface and mushroom shape of the syphilitic lesions.

The "granulations" sometimes cause considerable pain on defæcation. Some of them disappeared spontaneously, others were excised and the bases cauterised.

(*Ibidem*, July 21, 1914, lxi, No. 29.)

GRAPHIC ANALYSIS OF CUTANEOUS REACTIONS. C. VON PIRQUET, p. 1605.

In order to facilitate the graphic charting of such skin reactions as the tuberculin reaction originated by the author, he establishes 9 degrees of combinations of color and swelling, numbered from 1 to 9. The number of hours after the test, and the diameter or average diameter of the reaction are shown in the horizontal and vertical divisions, respectively, of the chart. This, for the von Pirquet reaction, has a vertical line for every second hour up to the fourteenth, then every third hour up to the 24th, then for the 34th, 56th and 72nd. Its horizontal lines represent millimeters, from 2 to 20. Near the points indicating the size of the lesion at various hours are small figures representing the degree of reaction according to the author's schema.

The charts so constructed show beautifully the various reactions due to trauma, bouillon control and the real tuberculin reaction. These are shown for a series of tests on the same patient with dilutions of 1 to 1000 and 1 to 100, 1 to 10,

and the undiluted toxins. The method is a distinct advance in the presentation of the results of such reactions.

CLINICAL AND EXPERIMENTAL EXPERIENCE WITH THE INJECTION OF SALVARSAN INTO THE CENTRAL NERVOUS SYSTEM. W. WEYGANDT, A. JACOB and KAFKA, p. 1608.

Twenty-five advanced cases of general paresis were treated by the injection of a weak solution of neosalvarsan into the spinal canal, according to the method of Gennerich. The reactions were mild; slight fever, increased ataxia, stiffness of the neck, abdominal pain or increased incontinence were temporarily noticed. One case, however, died 6 days after the second injection. In 3 cases they noticed increased difficulty in making the second and subsequent lumbar punctures. Their impression is that the injection caused connective tissue proliferation.

The clinical improvement was distinct, but not marked, as they were all far advanced. In one early private case given this treatment, the improvement was so marked that the patient was able to resume his academic work. In several cases the spinal fluid improved under the treatment; but in others a temporary increase in the globulin and cells occurred.

They gave apes intralumbar injections of neosalvarsan in a dilution of 0.15 gm. to 100 cc., in doses of 3.0, 2.0, 1.0, 0.4 and 0.2 gm. Two of the animals receiving the largest doses failed to show any effect clinically. All the others died in from a few hours to a few days with symptoms of spinal cord injury. In the cords of all these animals signs of severe irritation of the dural endothelium, the emerging nerve bundles and the vascular endothelium and an outspoken degeneration of the nerve parenchyma were found. These occurred even in the cervical region in one case. The fact that the two animals that received the largest doses showed no clinical affect must have been due to superior excretory power.

Similar injections into the brain produced similar effects. Two apes injected with the weaker solution used in treatment, 0.15 gm. to 300 cc., showed clinically and microscopically nothing more than the irritation of the puncture, which was not more than that in a control animal in which normal salt solution was injected.

THE VALUE OF THE ABDERHALDEN DIALYZING METHOD IN THE DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS OF MALIGNANT TUMORS. M. WEINBERG, p. 1617.

On the basis of 48 reactions, all but two of which were correct, the author holds that the dialyzing test is of great value in the diagnosis of malignancy; but only in conjunction with the clinical facts. He warns against basing a diagnosis upon the reaction alone. One of his failures was a case of carcinoma of the pylorus, which in spite of repeated tests, failed to give the reaction, possibly because of lack of ability to produce the ferment. The patient was very cachectic and the tumor had grown very rapidly. Another case which did react proved to be a syphilitic hepatitis.

Six sarcoma cases were all positive with sarcoma tissue as fundament, and 15 non-malignant cases were all negative.

The reaction in the case of syphilis is explained as a tissue reaction, as a carcinoma of the liver was used as the fundament. Abderhalden is quoted as advising against accepting such a reaction, without control with a fundament of another organ.

(This rule excludes 7 of the author's positive reactions in his 28 carcinoma cases.—Reviewer.)

(To be continued.)

Ibidem, July 28, 1914, lxi, No. 30.)

INFECTIOUS ERYTHEMA. A. HEISLER, p. 1684.

A report of an epidemic of 25 cases of infectious erythema, which the author believes should be better known and differentiated from scarlatina, measles, German measles and Duke's disease. The incubation period is from 5 to 14 days, usually 7, during which the lymph glands at the angle of the jaw, under the ear, at the back of the neck and in the occipital region are noticeably enlarged and tender. Often even this prodrome is wanting and without any warning the face suddenly takes on a very swollen appearance and both cheeks are found covered with a maculo-papular, livid red erythema, more or less confluent. Some infiltration can be felt. On the same day, usually, a similar eruption appears on the extensor surface of the upper arms, the back of the neck and the shoulder blades. Here the individual lesions are smaller, more pointed and discrete. In the author's cases ring formation was very slight.

On the second or third day the outer parts of the buttocks and thighs are markedly affected. The erythema is evanescent, may last only a few hours and may fade as one looks at it, only to reappear in a short time. Rubbing the part makes it more distinct, but not confluent. Desquamation occurred only on the face. Pigmentation followed the fading of the eruption in a few cases.

In the early cases which were much more severe than the later ones, a temperature of 38.6° C., a marked reddening of the tonsils and a large macular, deep red eruption on the hard palate suggested scarlatina. This eruption on the mucous membrane was slightly hæmorrhagic in a few cases.

The reported epidemic occurred in a boys' school, and the contagion could be traced from one to the other. In spite of some precautions to prevent its spread, it died out of itself, the later cases being very mild. In one case the disease was followed by a paresis of the vocal cords, which, at the date of writing, 8 weeks later, had not entirely disappeared.

THE VALUE OF THE ABDERHALDEN DIALYZING METHOD IN THE DIAGNOSIS AND DIFFERENTIAL DIAGNOSIS OF MALIGNANT TUMORS. M. WEINBERG, p. 1685. (*Concluded.*)

The conclusion of the article, already reviewed, which began in the previous number of the *Muenchener Medizinische Wochenschrift*.

ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

(May, 1914, No. 5.)

Abstracted by PAUL E. BECHET, M.D.

BIOCHEMISTRY OF THE SKIN. UNNA, p. 257.

This is not an original article, but a lengthy review of Unna's work in biochemistry of the skin.

CONTRIBUTION TO THE STUDY OF ELEPHANTIASIFORM CONDITIONS OF THE EAR. L. BROcq, p. 263.

Brocq divides the facts to be studied into two groups, and places in the first group those cases which, without any visible anterior cutaneous lesions, are suddenly

attacked with a congested, reddened, tumefied œdema of the auricle of one or both ears. After a variable length of time, the condition retrogresses to the normal, but in the majority of cases new outbreaks occur. In the second group a similar phenomenon occurs upon patches of seborrhœic eczema, or as Brocq prefers to call it, parakeratosis psoriasiforme. After a number of these acute œdematous outbreaks, the auricles of the ear remain tumefied, closely resembling elephantiasis. He reports four cases belonging to the first group. The condition was not due to erysipelas, as the lesions were limited to the auricles and were of much longer duration. There was little or no temperature. The patients were usually in good general health. Under these conditions the lesions could scarcely be considered a result of a streptococcic infection, but should rather be classed among the phlegmonous œdemas. The second group of cases occurred upon a preëxisting psoriasiform seborrhœic eczema, and consisted of an enormous swelling of the ear, the external auditory canal being almost completely obliterated. The surface of the skin is stretched, shiny, of a bright red color, and perfectly dry. The affection was most persistent in women at the time of the menopause.

PREROSEOLAR AND METACHANCROUS SYPHILITIC MENINGITIS.
M. LAVAU, p. 280.

Lavau reports nine cases of syphilis in the intermediary stage between chancre and roseola. Lumbar puncture demonstrated physical, histo-chemical, and biologic changes in the cerebrospinal fluid in six, or two-thirds of the total number. The clinical symptoms in the majority of the cases were nil.

ERRORS IN THE INTERPRETATION OF THE WASSERMANN REACTION. PAUL RAVAUT, p. 285.

Ravaut believes that too much stress is laid upon the interpretations of the Wassermann reaction. While it is of great value, it is not the mathematical certainty that many seem to believe it to be. It varies according to the different technique of the serologists. In a number of avowed syphilitics the blood was collected in three tubes, and sent to three different serologists. Responses were labeled positive, negative, doubtful. The results were in accord in 61% of the cases. In 36%, reactions reported as doubtful were reported by others as positive or negative and in 3%, the results were entirely at variance. The results of the reaction in syphilitics are much more in accord than in non-syphilitics. A positive reaction is a sign of active syphilis, yet he has observed a number of cases who for years have had a positive reaction, unchanged by the most active treatment, and presenting no clinical symptoms of the disease. On the other hand, cases with a negative Wassermann have presented ocular, cutaneous, and intra-abdominal lesions, which have rapidly healed under specific treatment. He claims that positive reactions can be provoked in the serum of non-syphilitics under diverse conditions. He has discovered that auto-serum injections in non-syphilitics cause complement-fixation. In fourteen non-syphilitic diseases of the skin, with negative Wassermann reactions, experimental treatment with arsenobenzol was given, and caused five, or 35% of them, to give a positive reaction. In summing up, he concludes that in an avowed syphilitic a positive reaction is proof positive of the presence of the disease. On the other hand the reaction may be negative in the face of active lesions. A negative reaction does not exclude syphilis. One should try by treatment to render a positive reaction negative, but in old syphilitics this is often impossible, and it is not necessary to depend alone on the reaction to decide whether the patient is cured and the treatment to be stopped.

OBITUARY.

JEAN ALFRED FOURNIER.

Jean Alfred Fournier is dead.

He was one of the world's greatest physicians. Though a native of France, he belonged to all of us. He was the wisest known and most esteemed syphilographer of the world. A careful student, a keen observer, an able reasoner, an esteemed teacher, a clear writer, he greatly increased our knowledge of syphilis. He it was who proved clinically the syphilitic origin of locomotor ataxia and general paresis, an opinion that has withstood more recently the acid test of the pathological laboratory.

He was born in Paris, France, on May 12th, 1832, and died in the city of his birth on December 24th, 1914. He was educated at the Lycée Charlemagne; became a hospital interne in December, 1854; received his medical degree in 1860; was made a member of the Medical Faculty of the University of Paris in 1863; a physician of the Hôpital St. Louis in 1867; a Professor in the Medical Faculty and a member of the Academy of Medicine in 1879. He was also a Commander of the Legion of Honor; a member of the Société Française de Dermatologie et de Syphilographie, of which he was at one time the President; an Honorary Member of almost all foreign dermatological societies, including the New York Dermatological Society and the American Dermatological Association; and the founder of the Society of Moral Prophylaxis, which has spread to other lands than France. He lived at 77 Rue de Miromesnil, Paris.

Professor Fournier was a voluminous writer, and enjoyed the honor of having several of his books published in other languages than his own. Among other works, he was the author of: *Recherches sur la contagion du chancre*, 1857; *Leçons sur la syphilis, étudiée plus particulièrement chez la femme*, 1873; *Des glossites tertiaires*, 1877; *La syphilis du cerveau*, 1879; *Syphilis et mariage*, 1880; *De l'ataxie locomotrice d'origine syphilitique*, 1882; *Leçons sur la période pre-ataxique du tabes d'origine syphilitique*, 1885; *La syphilis héréditaire tardive*, 1886; *Leçons sur la syphilis vaccinale*, 1889; *Traitement de la syphilis*, 1st edition, 1893, 3d edition, 1909; *Les affections parasymphilitiques*, 1894; *Les chancres extra-génitaux*, 1897; and *Syphilis secondaire tardive*, 1906.

He also contributed to several treatises of encyclopædic character, and published many papers in medical journals. He was one of the editors of *Annales de dermatologie et de syphiligraphie*.
G. T. J.

LUCIEN JACQUET.

Word has been received here from Paris within the last few weeks of the death of Lucien Jacquet.

Jacquet was born at Sauviat, in 1860. In 1896 he became Médecin des hôpitaux and was attached to the hôpital Saint-Antoine. He started at this hospital a dermatological service, which grew in attendance and became, by reason of his personality and skill as a dermatologist, second only to the hôpital Saint-Louis. His clinics at the Saint-Antoine were always open to strangers, and Americans seemed always to be especially welcome. While not a prolific writer, Jacquet contributed a number of monographs, all of which, moreover, are important. His greatest contributions, perhaps, are those dealing with alopecia areata, particularly with regard to its ætiology as a reflex neurosis. He also wrote extensively on eczema and urticaria, and on the relation of digestive disorders to the ætiology and treatment of cutaneous diseases. He was convinced of the important influ-

ence of alcohol in disease, and particularly in the grave disorders of the organism. It is noteworthy that he also started an anti-alcoholic campaign.

He was joint editor of the *Précis élémentaire de dermatologie*, in collaboration with Brocq, and his contributions to the *Pratique dermatologique*, with Besnier and Brocq, form noteworthy contributions to this work. Two other publications of note are "Post Erosive Erythemas of the Thighs" and a study of the dermatoses of infancy.

Jacquet was joint editor of the *Annales de dermatologie et de syphiligraphie*, and also a member of the Société française de dermatologie. Inasmuch as he represented conservatism coupled with accurate powers of observation and a most genial personality, Jacquet's loss to French dermatology and the dermatologic world as a whole is a great one.

U. J. W.

BOOK REVIEW.

ATLAS DER EXPERIMENTELLEN KANINCHENSYPHILIS. von Geheimen Reg.-Rat. Prof. Dr. Med. P. UHLENHUTH und Privatdozent Dr. Med. P. MULZER. With* Thirty-nine Plates. Berlin. *Julius Springer*, 1913.

This is a most beautiful atlas of the authors' experiments on syphilis in rabbits and apes. The text, which is reduced to a minimum, takes up in order: 1. Experimental infection of rabbits in the anterior chamber of the eye. 2. Inoculation of human and animal syphilis in the testicle of a rabbit. 3. General syphilis in rabbits with manifest symptoms. (a) After inoculation in the testicle; (b) after intravenous and intracardial inoculation. 4. Histopathology of syphilitic tissue in rabbits. 5. Generalized syphilis in the lower apes. 6. Chemotherapy of the spirochæte infections.

These headings are profusely illustrated by thirty-nine exquisite plates, showing the various lesions in color plates, photographs and microphotographs. Particularly striking are those plates showing testicular chancres in rabbits. The book is a great tribute to the excellent work of these two authors in the field of experimental syphilis, and a valuable and ornamental addition to any library.

U. J. W.

NOTICE.

THIRTY-NINTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

PROVISIONAL PROGRAM.

The Thirty-ninth Annual Meeting of the American Dermatological Association will be held at the New York Academy of Medicine on May 13th, 14th and 15th. The list of papers, subject to changes of title, is provisionally announced as follows:

President's Address—Dr. Sigmund Pollitzer.

Subject selected by the Council: "The Relations of Internal Secretions to Cutaneous Diseases." Discussion opened by Drs. Otto H. Foerster and Ernest L. McEwen.

Corlett, William Thomas—The Present Status of Dermatology in South America.
Davis, Charles N.—The Use of Trichloroacetic Acid in Dermatology.

- Engman, Martin F., and Kendall, E. C.—Hypothyroidism in Relation to Certain Conditions of the Skin.
- Fordyce, John A.—A Comparison of the Pathological Changes Produced by Syphilis in the Skin, Viscera, and Nervous System (with lantern demonstration).
- Fox, Howard—The Treatment of Chronic Itching Skin Diseases with Human Serum and Blood.
- Gilchrist, Thomas Casper—Report on Multiple Pigmented Hæmorrhagic Sarcoma (Kaposi)—Two Cases.
- Harris, Frederick G.—A Report of Two Cases of Moeller's Glossitis.
- Hazen, Henry H.—Spino-celled Cancers of the Skin.
- Kingsbury, Jerome—Intravenous Administration of Potassium Iodide in Syphilis.
- Knowles, Frank Crozer—The Pathology of Mycosis Fungoides.
- MacKee, George M.—The Coolidge X-ray Tube and the Corbett Radiometer.
- McBride, William L., and Shorer, Edward H.—Urticarial and Erythematous Eruptions Resulting from Sensitization of Certain Types of Food.
- Mook, William H.—Report of Cases of Pemphigoid Eruptions Following Vaccination.
- Montgomery, D. W., and Culver, George D.—Lichen Sclerosus Vulvæ.
- Post, Abner—The Effect of Syphilis on the Bones.
- Ravogli, August—Gangrænous Gumma of the Thigh.
- Schamberg, Jay Frank; Kohner, John A., and Raiziss, G. W.—Chemo-therapeutic Investigations in Relation to Trypanosomiasis and Spirochætal Infections.
- Schwartz, Hans J., and Heimann, Walter J.—The Sugar Content of the Blood in Various Diseases of the Skin.
- Smith, C. Morton—Primary Syphilis of the Tonsil.
- Smith, D. King—Two Cases of Bromide Eruption.
- Towle, Harvey P.—Heliotherapy in Diseases of the Skin.
- Trimble, William B.—The Treatment of Psoriasis by Autogenous Serum.
- White, Charles J.—The Anaphylactic Phenomena in Chronic Eczema.

ERRATUM.

The two illustrations on Plate XVIII. should have accompanied the article entitled "An Instance of Asymmetrical Raynaud's Disease," by Dr. Douglass W. Montgomery and Dr. George D. Culver, on page 119 of the present volume (February issue).

PLATE XVIII.—To Illustrate Article on An Instance of Asymmetrical Raynaud's Disease, by DR. DOUGLASS W. MONTGOMERY and DR. GEORGE D. CULVER.



Fig. 1.

Showing lesions on tips of fingers.

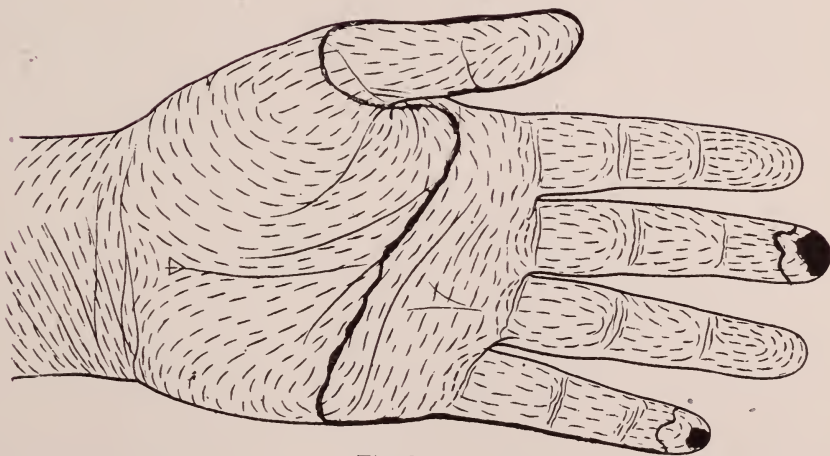


Fig. 2.

Indicating extent of eruption on hand.

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EPIDEMIC ALOPECIA IN SMALL AREAS, IN SCHOOLS, REGIMENTS, ETC.

By JOHN T. BOWEN, M.D., Boston.

Edward Wigglesworth Professor of Dermatology, *Emeritus*, Harvard University.

TWENTY-FOUR years ago (January, 1891) there occurred in Boston the first of two epidemics of alopecia in spots, among the inmates of an asylum for homeless girls. Six years later a second epidemic was observed in the same institution. These happenings were made the subject of a paper read by me before the American Dermatological Association in 1899, and published in *The Journal of Cutaneous and Genito-Urinary Diseases* for September, 1899. These epidemics were so remarkable that I may be permitted to summarize them briefly here.

In January, 1891, E. S., a girl of eleven years, who had lived in the asylum for eight years, was found to have several bald areas on her scalp, two of them nearly an inch in diameter, and varying in no way, so far as could be determined, from an ordinary alopecia areata. Several weeks later it was found that another girl, seven years old, had a patch of alopecia near the crown of the head, which rapidly became of the size of a silver dollar, besides several smaller patches of irregular and elongated shapes. Four months later, on the occasion of a general hair cutting, it was discovered that sixty-three of the sixty-nine children in the asylum were more or less affected.

Certain characteristics in this epidemic were to be emphasized. In a large number of the cases the bald areas were small, and more irregular and angular than we commonly see in alopecia areata. In many cases the whole scalp was dotted with these small, irregular

and angular areas. It was, however, also emphasized that although these small, irregular, angular areas were characteristic of the epidemic as a whole, there were also many cases in which larger patches, precisely like those of ordinary alopecia areata, were present in addition. In a few of the cases the latter form was the only one. An examination of E. S., the first case observed, showed at this time that besides the large areas of alopecia, there was present also a diffused "patchy" baldness, somewhat like that of syphilitic alopecia, except that the areas were more sharply defined. In a very few of the cases the bald areas were glistening and atrophic.

Various methods of treatment were tried, without demonstrating the preëminence of any one. At the end of two months the areas began to fill in, and at the end of six months only a very few of the girls showed any signs of the trouble. The epidemic was carefully studied, the cases being examined every few days. *Repeated histological and bacteriological examinations of the hairs were negative*, as were all attempts at cultures.

E. S., the first case noticed, left the institution and was absent three years. She reëntered the institution six years after the first epidemic, at the age of 17. It is not definitely known whether any of the areas persisted at this time, but it seemed probable that there were still some small bald spots. A month or six weeks after her entrance, another child was found to be affected and four or five months later, twenty-six of the forty-five girls at that time in the asylum were discovered to have spots of baldness of the same small, angular, dotted character as those in the first epidemic. E. S. presented at this time several large areas of complete baldness, differing in this respect from the type of the other cases. It should be remarked that after the first epidemic, frequent examinations of the children were made and no case of alopecia had been discovered until this second epidemic. As in the case of the first epidemic, the hair grew in rapidly under treatment and there were practically no lesions remaining at the end of six months.

In the autumn of 1914 an attempt was made to trace some of those affected in these epidemics, in order to determine, if possible, whether, as in Dreuw's cases, to which reference will be made shortly, there had been a progressive condition, resulting in atrophy. It was found that the institution had been given up some years previously, but access to the books was obtained, and I was fortunate enough to find a woman who had been connected with the asylum and who had seen many of the girls later.

E. S., the first case discovered in each epidemic, was seen by me

in January, 1915. Just after the second epidemic she had been admitted to the Massachusetts General Hospital for an affection of the knee joint, which had healed, leaving her with a pronounced limp. At that time a piece of skin had been excised from one of the remaining bald areas for microscopic examination, the results of which are recorded in my paper.¹ According to her account, and to that of the matron, the hair had grown in soon after the last epidemic and there had been no recurrence of the bald areas. When seen in January, 1915, a careful examination failed to detect the slightest sign of alopecia or of atrophy. The hair was thicker and longer than is normally seen. The testimony of the matron was to the effect that she had personally seen from fifteen to twenty of those affected in the two epidemics at varying periods of time since, and had not seen or heard of any remains or recurrence of the bald areas. With regard to a number of the cases of which I had kept notes, she had positive information.

In the paper in which I described these two epidemics, it was stated that the term alopecia areata was applied to these cases from the fact that they appeared to be similar to those occurring as epidemics in regiments, schools, fire brigades, etc., which had been observed by Hardy, Besnier, Feulard and other French dermatologists and placed in the category of the "pelades." These epidemics had been pretty generally confined to France and no previous instance of their occurrence in this country could be discovered. I emphasized, in my paper, however, "that there were some features" in the two epidemics observed "that differed from the cases of alopecia areata commonly seen, i.e., the small size, and the jagged, angular outline of the bald areas."

In the *Monatshefte für praktische Dermatologie*, July 1, 1910, li, No. 1, Dreuw published a preliminary report on epidemic alopecia, followed by a more complete paper in volume 51, No. 3, entitled, "Klinische Beobachtungen bei 101 haarerkrankten Schulknaben."

In this paper an epidemic was described that occurred among 101 school children from a public school in Berlin, all of whom had a characteristic alopecia. Two hundred were finally affected. The bald areas occurred over the whole head, front and back and sides. The characteristics were the presence of small pea-sized areas, varying from very minute spots up to some of from three to four centimetres in length, of a white or grayish white color. At the start the bald areas were more or less rounded, later spindle-shaped with

¹ *Jour. Cutan. and Gen.-Urin. Dis.*, September, 1899.

three, four, or five corners. These areas were not so sharply bounded from the normal skin as in the case of alopecia areata. In some cases stumps of hairs were to be seen in the centre of the patches, some of which were black. There were no inflammatory appearances. Those affected were children of from five to fourteen years, mostly boys. There were no cases of total alopecia seen. Microscopic examinations and attempts at culture were negative. It was considered similar to alopecia areata, but not identical, on account of the patches being seldom confluent, less sharply bounded, and not rounded, *but more angular in shape*. The patches were also relatively smaller and whiter in color. In the initial stages there is no trace of atrophy, while in the later stages a pronounced atrophy is present. Later he makes the statement that the atrophy occurred in about ten per cent. of the cases. Dreuw proposes the name alopecia parvimaclulata for the affection on account of the small size of the earlier spots. He considers that it belongs to the same group as that described in 1885 by Brocq as alopecia atrophicans, or pseudopelade, apparently because an atrophy was found in about one-tenth of the cases.

A further communication on this epidemic was sent by Dreuw to the *Deutsche medizinische Wochenschrift* for Nov. 6, 1913. In this he states that a commission was appointed by the city of Berlin to investigate the epidemic, two of the members of which were Joseph and Dreuw, which decided that the affection was the beginning stage of an incurable process, the so-called alopecia atrophicans, which requires many years for its development. This affection is more or less frequent in France, and also occurs epidemically.

In the *British Journal of Dermatology* for February, 1913, T. Colcott Fox writes "on a small epidemic of an areate alopecia." Twenty-one scholars from the same school for girls were affected, the ages ranging from nine to fourteen years. In this epidemic, as in the one reported by me, the first case detected had had the affection for some time (over two years) before the others became affected. The patches were very small, of slow evolution, either single, or two or three at most. Fox considered that the patches had a special and similar aspect in every case and that the type was a special one. Repeated microscopical examinations failed to reveal any organism, and attempts at culture were also negative. There is no mention of any atrophy. Fox refers to an epidemic at Hanwell Schools (*Handbook of Skin Diseases*, Thomas Hillier, 1865) and to the epidemic reported by me.

H. Davis, in the *British Journal of Dermatology*, 1914, xxvi,

pp. 207-210, publishes an account of an epidemic of alopecia in an orphanage for girls. The first case was noticed in March, 1913, and the trouble gradually spread until the end of June, 1913, when there were one-hundred and seventy-four cases. Among them were two adults, a foster mother and a servant maid. In October, after vigorous treatment, all were cured. On March 15, 1914, a fresh case was observed, which increased and was followed by other cases with such rapidity, that on March 23, thirty cases were detected. Davis first saw them on March 24, and on April 1st examined all of the patients, forty-two in number. One was a maid of seventeen years, all the others were girls below the age of twelve years. Careful examinations revealed no parasites. Histologically, there was found a "curious opaque swelling in the peripheral end of the stumps that were extracted." He considers this epidemic similar to the ones described by Bowen and Fox. He comments on the fact that all three epidemics occurred in institutions for girls only. In the epidemic reported by him the patches were not entirely bald even in the centre, but were covered by stumps broken off very close to the surface, so that it was difficult to seize them with the forceps in order to extract them for examination. He makes no mention of the small size and angularity of the lesions, as was shown in the epidemics of Bowen, Dreuw, and Fox, and which is touched upon in the accounts of some of the old French epidemics of "la pelade."

With regard to these epidemics of alopecia, alopecia areata, alopecia parvimaculata, pelade, as they have been variously styled, the most astonishing thing is that the French, to whom we owe their original description and among whom the greater number of instances have occurred, have experienced a change of heart, and now deny the occurrence of these epidemics, regarding their description as due to imperfect observation and to mistaken diagnosis.

Besnier and Doyen, in their annotated edition of Kaposi's Handbook, published in 1891, protest against those who deny that "la pelade" is contagious, declaring that they have not taken the trouble to read the French accounts of epidemics of pelade in schools, colleges, and regiments. Furthermore, all of the physicians who were at that time giving instruction in the St. Louis Hospital believed, with one exception, that ordinary pelade, such as is met with everywhere in primary schools, asylums, workshops, convents, colleges, etc., is transmitted from individual to individual.

Such was the prevalent French view twenty-five years ago, a substantial majority of the French experts believing that la pelade was in certain instances contagious and that occasional epidemics of

a contagious affection of the hair that they put in the groups of pelades, occurred in schools, regiments, fire-companies, etc.

In *La Pratique Dermatologique*, published in 1902, P. Déhu, who contributes the article on pelade, discusses the question of the epidemics of pelade, and shows that of late years there had been a distinct change of opinion among many of the French dermatologists. Serious doubt had been thrown on the value of the observations with regard to these epidemics. It has been found on examination that the epidemics occur at a period of life when la pelade is most frequent and therefore there is the more chance of coincidence being a factor. When one case is found, an examination of the school or company reveals many cases which are in reality only small cicatrices, caused by injury or due to impetigo, furuncles, etc. These cases are then all subjected to active treatment of an irritative nature which causes many of these lesions to assume an appearance still more like true alopecia areata. Besides this, in the army, many cases are due to malingering. Sabouraud and Jacquet have spent considerable time in investigating this question of epidemic alopecia areata (pelade). In spite of the variance in their views of the affection ætiologically, they agree in their conclusion with regard to the reported epidemics. They were unable to find a single authentic instance of epidemic pelade, either in the army or in the Paris schools. All occurrences that were suspected as such, turned out to be false epidemics. It is admitted, however, that in some instances a contagion seems probable, and these Déhu considers among the false pelades. He cites the epidemics reported by the writer, with the comment that the description of these cases varies widely from that of the classical picture of pelade in young subjects. He does not, it may be repeated, deny the possibility that these alopecias may be contagious.

Brocq, in his *Traité de Dermatologie*, 1907, remarks that the epidemics of pelade that have been described in colleges, in barracks, etc., are to be regarded as apochryphal. Since the subject has been carefully examined, no true epidemic of pelade has been observed. Those described have been due to coincidence and to errors of diagnosis: circumscribed alopecias following impetigo, folliculitis, furunculosis, blows, etc., even ringworm, have been mistaken for pelade. This statement is immediately, however, somewhat qualified by an admission that the question is not yet definitely settled; that it is too early to affirm that there is no form of alopecia in patches that is contagious, and that all facts relating to contagion or to the occurrence of epidemics should be carefully considered.

I have thought it of interest, in view of the French disclaimers of their former view, and of the publication of cases of epidemic areate alopecia, since the occurrence of the epidemics I observed in 1891 and 1897, to group the new evidence and to determine to what extent previous deductions should be modified by it. As already stated, the term alopecia areata was applied to the two epidemics described by me chiefly because I believed them to be very similar to, if not identical with, the epidemics of pelade (alopecia areata) described by the French. As has just been seen, these epidemics are now repudiated by the most eminent French authorities. Moreover I recognized the great divergence from the type of alopecia areata, in the two epidemics, consisting especially in the small size and jagged, angular outline of the bald areas. I would therefore drop the term alopecia areata and substitute the appellation epidemic alopecia, adding possibly the descriptive phrase, "in spots." I have always considered it probable that different ætiological entities were embraced in our term alopecia areata, the French pelade. I had anticipated in my paper the objection of Déhu that my cases were in many respects unlike alopecia areata as commonly seen, and now that the French have abandoned their belief in the existence of epidemics of pelade (alopecia areata), no excuse remains for retaining the name for the epidemics observed by me.

Leaving aside the French epidemics which we have no right to consider longer in view of their repudiation by French dermatologists, we have left the epidemics described by Dreuw, Fox and Davis. In many respects there is a great similarity between these cases and those reported by me. In Dreuw's epidemic, the small size of the patches (whence his descriptive term *parvimaculata*) and their angular shape and lack of sharp boundary, are features emphasized in the epidemics reported by me. Moreover, the excellent illustrations in the *Monatshefte für praktische Dermatologie*, li, No. 3, recall strikingly the aspects of my own cases. In one respect, however, seemingly an essential one, Dreuw's epidemic is different: namely, as regards the atrophy. Although it is stated in one place that only ten per cent. of the cases were followed by atrophy, so much stress is laid on this feature that the affection is classed with the alopecia atrophicans or pseudo-pelade, described by Brocq in 1885, an atrophic process, with permanent loss of hair. No such feature was observed by me. A slightly atrophic condition was present temporarily in a few of the cases, but as has been emphasized, investigation years afterward showed almost conclusively that there had been no lasting results.

It would seem highly probable that the epidemics reported by Fox and by Davis were of the same nature as mine. At all events, there is great similarity. It is hardly fair to suspect that in these epidemics an undetected fungus was present, as the cases were repeatedly examined with this view, by competent microscopists, and numerous cultural tests were instituted. It seems equally improbable that many of these lesions were the result of atrophy from injury, impetigo, furuncles, etc.; although it cannot be proved that such instances may not have been included in the large number of cases observed. Moreover, it cannot be proved, also, that the case in whom the affection was first observed in each of the epidemics described by me, brought the affection to the school. It may be that here was an ordinary case of alopecia areata, which it resembled more than most of the others. But it is certainly a strange coincidence that such a large number of cases should have been observed at two different periods in the school, following the discovery of this first case, and at the second period, she should have returned after an absence of some years. The scholars were repeatedly examined for bald patches during a period of many years, and at no other times was more than a sporadic case discovered.

The objection raised against the epidemics of pelade, that they may have been really instances of *trichophytina* which was not recognized, may, it seems to me, be emphatically rejected with regard to these epidemics of alopecia in spots. Repeated examinations for parasites and repeated attempts at culture were made by observers especially trained in such examinations, with negative results.

What then can be deduced from a study of these epidemics, in the light of the French belief that all previously reported epidemics of pelade (alopecia areata) are to be rejected?

It can certainly not be proved that these epidemics are identical with the sporadic form of alopecia areata. They vary from it chiefly in the small size of the bald areas and their jagged, angular appearance. In the case of Dreuw's epidemic a distinctive feature is the permanent atrophy which occurred in ten per cent. of the cases. It would be interesting if data as to the condition of these children's heads several years after the epidemic could be obtained, as was possible in the writer's case.

In conclusion, I think it may be asserted that apart from the French reports of epidemics, now discredited in France, several instances of alopecia in small spots with angular outlines have occurred epidemically in schools, in which most competent investigation has

failed to detect a causative agent. In this class may be included the epidemics reported by Fox, Davis, and myself, and very probably the one reported by Dreuw, in spite of the fact that an atrophy was observed in ten per cent. of the cases and that he classes them with the alopecia atrophicans of Brocq. The provisional title of epidemic alopecia in small areas would seem most applicable to the cases under consideration.

A CASE OF MYCOSIS FUNGOIDES, LIMITED TO ONE FOOT.

BY FRANCIS EUGENE SENEAR, B.S., M.D., Ann Arbor.

Resident in Dermatology and Syphilology, University of Michigan.

(From the Department of Dermatology and Syphilology, Department of Medicine and Surgery, University of Michigan, Ann Arbor.)

ALTHOUGH mycosis fungoides is a rare condition, the occurrence of a typical example of this disease calls for no special comment. A review of the literature of the subject with special reference to the localization of the disease, however, shows the following case to be so unusual as to merit this report.

In the case to be described, the lesions were all confined to one foot. The patient in this case was a woman who entered the University Hospital on Sept. 29, 1914, complaining of the presence of painful tumors and ulcerative lesions on the right leg. Examination of the affected member showed a very striking condition.

From a point a short distance above the ankle to the sole of the foot, the skin was thickened and infiltrated and of a dusky purplish color, especially over the dorsum of the foot. Scattered all through this area were numerous tumor masses. These varied in size from that of a split pea to that of a pigeon's egg. They were hemispherical, dark purplish, and felt rather boggy to the touch. Some of them showed a marked tendency to coalesce, thus forming irregular, lobulated tumors. Others were broken down to form indolent ulcers with irregular borders and a necrotic base. From some of the larger ulcers there had developed dirty fungating lesions, definitely constricted at the base and of cauliflower appearance on the surface. From such lesions there was a thick seropurulent discharge. Spon-

taneous involution in some of the lesions was manifested by the appearance of healing ulcers. Besides the tumors and ulcers, there were numerous infiltrated plaques, irregular in outline, and having the same purplish color. All of the lesions were excessively painful on pressure.

The general examination of the patient was not uninteresting. She was a rather poorly nourished woman of small stature, forty-six years of age. The skin of the body, except for the lesions already described, was entirely clean. The left eye showed evidence of an old iritis, the pupil being elliptical in outline and somewhat sluggish in its reaction to light. Above the right elbow, there were superficial scars of rather circinate configuration. There was an exostosis on the left clavicle. On the right labium minus was a slightly depressed circular scar of about six millimetres in diameter. There was no general adenopathy. The spleen and liver were not enlarged. Just inside the angle of the mouth on the left side, there was a marked leucoplakia, and there was superficial scarring of the soft palate.

The presence of the scar on the labium, together with other suggestive findings, made it highly probable that there was an underlying syphilitic infection, and careful questioning of the patient led to the anamnesis that fifteen years previously, following an extra-marital exposure, a small painless sore had appeared at the site of the scar on the labium. This was diagnosed as "chancre" by her home physician, and about one year later she suffered for several months with sore throat and mouth. She gave no history of having had an iritis. A careful neurological examination revealed markedly increased knee- and Achilles-jerks, together with a positive Romberg sign. There was also an intention tremor at the corners of the mouth. The Wassermann reaction on the blood was $++$. A careful examination of the blood showed no marked changes in either the red or the white cells, there being no deviation from the normal.

The history of the condition on the foot is as follows:

The patient states that six years previously, there appeared a pea-sized lump on the right foot which, although invisible, was palpable and freely movable. Shortly thereafter, the patient began to be troubled with an intense pruritus of the entire foot and lower part of the leg. In about five months' time, the nodule had increased in size, and the epidermis over it had become reddened, but soon the tumor disappeared. Some two years later, several small nodules appeared above the right elbow. These remained about one week, then disappeared spontaneously, leaving the scars noted in the examination. During the subsequent four years and up to within a short

time of her entry into the hospital, the patient noticed only occasional itching on the right foot. Six weeks previous to her entry, several small nodules appeared on the right foot, rather abruptly. Within a short time, many more lesions of a like nature had developed on the lower leg. Even during the time that these later nodules were developing, the patient noted that a few of the earlier ones had begun to involute and that others had begun to ulcerate. The ulceration spread peripherally, in some cases coalescing with adjacent ulcerating tumors and forming large vegetating lesions.

The general health of the patient had been but little affected during the course of the disease. She suffered only a slight loss of weight. Due, however, to the presence of great pain, she has been unable to walk since the onset of the disease. During the earlier part of her stay at the hospital, it was possible to watch the course of the disease, as no therapeutic measures were attempted for several days. During this time, spontaneous involution of the largest ulcerating lesion progressed, the epithelial border advancing rapidly when the ulcer was kept clean. Several of the intact tumors also suffered considerable reduction in size but others continued to ulcerate. Two new lesions developed. These appeared first as circumscribed erythematous patches, followed very rapidly by tumefaction. One of these lasted only a few days and disappeared, leaving the skin unbroken. The other became reddened, painful, and a necrotic plug appeared at the centre. This was quickly extruded and the tumor proceeded to ulcerate rapidly. Further development was checked by the institution of therapy.

The diagnosis of the condition on the basis of purely objective findings was extremely difficult if not impossible in this case. The conditions under consideration were: idiopathic hæmorrhagic sarcoma of Kaposi, sarcomatosis cutis (round or spindle celled), and mycosis fungoides.

The differential diagnosis of mycosis fungoides is but little discussed by different authors, usually being dismissed with the statement that the diagnosis cannot be mistaken in a case with typical tumors. This is doubtless true, but in such a case as the one under discussion, of a most atypical localization and with lesions not unlike those of other conditions, a satisfactory differential diagnosis could not be made without the aid of a biopsy.

The location and the peculiar color suggested very strongly the diagnosis of multiple idiopathic hæmorrhagic sarcoma of Kaposi, and this diagnosis was quite seriously considered for a time prior to the examination of the tissue. The marked tendency to ulceration in this

case, however, is but rarely seen in the Kaposi sarcoma. The occurrence of the lesions in a woman, a native born American, were also points taken as against this diagnosis.

In view of the type of the tumor and the type of the ulceration, mycosis fungoides was seriously considered, notwithstanding the marked localization of the lesions to one part. The occurrence of a preëxisting pruritic dermatosis; the long duration (six years), and the tendency to involution in some of the lesions, made this provisional diagnosis seem more than probable.

Small tumor masses were removed under local anæsthesia, hardened in formalin and alcohol, imbedded in paraffin, and stained at different levels with eosin hæmatoxylin, polychrome-methylene blue (Unna), polychrome orcein and v. Gieson. The histopathological findings are as follows:

EPITHELIUM. There was definite thinning in places, overlying those portions of the cutis where the cellular infiltrate noted below was most marked. The inter-papillary tufts were here and there markedly prolonged. When the epidermis was examined more in detail, the stratum corneum and stratum granulosum were normal. In the Malpighian layer there were here and there invasions of this stratum by lymphocytes, more numerous as one approached the basal layer, but extending as high as the stratum granulosum in some places. These cells occurred more as an invasion than as an infiltrate, the cells passing through the adjacent papillæ from the basal layer, in some places entirely destroying the continuity of this layer.

The main change was found, however, in the corium, there being more or less alteration in practically all the structures of the derma. The most striking feature was the presence of a massive infiltrate of lymphoid cells, lying in a fine reticulum of connective tissue. This infiltrate occurred diffusely all through the entire derma, extending up into the papillæ, and furthermore as discrete foci resembling normal lymph tissue. Examination under high power showed this infiltrate to be made up of three types of cells.

1. Small mononuclear cells are those forming by far the greatest part of the infiltrate. The nuclei were small, round or oval, and practically uniform as to size and staining reaction. They stained heavily and here and there occasional karyokinetic figures were found. The scattered granules throughout the connective tissue reticulum suggested that in places these cells had undergone degeneration. These cells showed a marked tendency to group themselves, and in places to form round or oval clumps, usually at the centre of the

infiltrate. Evidence of mitosis was found in a few of the cells of this type.

2. Next in frequency, although not nearly as abundant as the lymphoid cell, was the faintly staining type which formed the reticulum of the infiltrate. These cells were truly epithelioid in nature. They were round, oval, or more usually, elongated. The nuclei varied in shape and size with the cells. They took a very pale stain and showed a few heavily staining granules. The protoplasm was fairly abundant in these cells, and protoplasmic processes of the different cells united in some places with each other, to form a reticulum in the meshes of which rested the lymphoid cells. There was a considerable number of karyokinetic figures found in these epithelioid cells.

3. The very marked increase in the number of cells taking a basophilic stain furnished one of the striking features of the pathological picture. They were found in all parts of the corium but were more numerous in the portions where the infiltrate was heaviest. They were seen in profusion about blood vessels and sweat glands.

These basophilic cells were typical mast cells, round, oval or elongated and rhomboidal, the most of them being of the last type. They showed coarse, heavy, deeply staining granules, with sometimes a background of lightly staining protoplasm. The nucleus, when not obscured by the granules, was a pale, oval body, taking a faint blue stain.

4. Other cellular elements were present in the infiltrate in much smaller numbers. A few giant cells, with peripheral arrangement of the nuclei and similar to those of syphilis and tuberculosis were seen scattered here and there. There were present a very few cells which were of the transition type between plasma cells or connective tissue cells. A few polynuclear eosinophiles were present.

Examination of the other structures of the corium showed some interesting alterations. There was an immense amount of hæmorrhage throughout the derma, and that this was fresh is evidenced by the fact that the blood cells still retained their normal outline and color content. Closer analysis, however, showed that much of the apparent hæmorrhage was really due to the fact that the infiltrate was threaded with a great number of capillaries, all of them distended and filled with blood. There were no large vessels in the infiltrate, all of them having undoubtedly been destroyed by pressure. The vessels elsewhere in the corium all showed marked dilatation.

The relations of the collagen and elastin had been much altered by the presence of the lymphocytic cells. These tissue elements were

practically lacking in the parts where the infiltration was heavy, and much diminished elsewhere. That the collagen and elastin had been broken up and absorbed rather than simply displaced, would seem to be proved by the finding that there was no massing of these fibres at the edges of the infiltration, but on the contrary there was definite thinning here as well.

The adnexa of the skin had also suffered somewhat, there being no sweat follicles in the portions of the corium affected by the infiltration. They were present elsewhere, but in some of them it was evident that the epithelium was being invaded by the lymphoid cells, and even destroyed. There were no hair follicles in the sections.

The question of the histopathological changes found in cases of mycosis fungoides is far from being a settled one, there being a wide range of opinions, not only as to what class of cutaneous tumors this condition shall be allied with, but also as to what cellular elements constitute the tumors.

In the main there are four theories as to the nature of the condition: (1) that it is homologous with the lymphatic tumors of the skin,—i.e., consisting of a reticulum in the meshes of which are found the lymphatic cells; (2) that the cellular infiltrate is made up for the most part of plasma cells, the tumors being in the nature of plasmomata; (3) that the condition begins as an acute or chronic inflammation and goes on to the formation of granulomatous tumors; (4) that the tumors are some type of neoplastic growth resembling most closely the picture of a lymphosarcoma.

Without attempting to enter into a discussion of the merits of these different ideas, or to form any conclusions as to the positive histopathological classification, it may be well to consider these theories a little more in detail.

Ranvier, together with others, but not all, of the French school, believed the condition to be analogous with the picture of lymphatic tumors of the skin. Koebner, however, showed that the reticulum of such a growth was in no way diagnostic for the condition, as he saw it in purely local conditions, as in dermatitis papillaris capillitii, and Unna states that all plasma cell granulomata have an adenoid-like stroma. Unna places mycosis fungoides in the group of chronic inflammations with a tendency to tumor development, also including in this group the tumors of leukæmia and pseudoleukæmia.

Koebner supports the idea that the condition should be classed with the granulomata, and Ziegler, Darier, Shumacher and others also entertain this idea.

The theory that the tumors are in the nature of sarcomatous growths, although still advocated by some excellent observers, and having many clinical and histological findings to support it, has lost ground until, according to Stelwagon, it need scarcely be considered any longer.

A great deal of the confusion with regard to the histopathology of the condition seems to be due to an inability among observers to settle upon any group of cells as characteristic of the condition. Some writers think that the main cellular features consist in the presence of a heavy infiltration of lymphoid cells in a reticulum. Others emphasize the participation of the connective tissue as shown by the presence of mast cells, plasma cells, giant cells, and fibroblasts in varying quantities. As has been suggested by one writer, it is very possible that the presence merely of an infiltration of lymphocytic cells in a reticulum is not a sufficient picture for a diagnosis of mycosis fungoides, and that many cases so diagnosed might really belong in the class of lymphatic tumors. It would seem as though it were necessary for a diagnosis of mycosis fungoides to have, in addition to these two factors, the various cell types of connective tissue origin enumerated above.

It must be remembered, however, that the presence and relative proportions of these cells to one another vary greatly with the stage of the disease, just as the arrangement of the infiltrate in the corium varies, and the picture seen in one of the early infiltrated plaques is widely at variance with that of the fully formed tumors.

The discovery of mitotic figures in some of the lymphoid cells of the infiltrate brings under consideration the possible source of the latter. Two theories confront us,—one, that they are cells carried by the blood stream from the hæmatopoietic tissue and deposited in the skin, or second, that they are due to mitotic division of lymphoid cells already present in the skin.

If the infiltrate were the result of transportation of cells by the blood stream, one would expect to find the infiltrate more marked about the blood vessels, but this condition does not exist in the sections. Furthermore, cross sections of blood vessels in the sections might possibly show an increased number of mononuclear cells. On the contrary, however, it was found that if there was any increase at all in the cells in the vessels, it was in the number of polynuclear cells.

On the other hand, there are some objections to the theory that the cells result from the multiplication of cells already present in the skin. In the first place, to establish this idea, one has to accept

Ribbert's theory that lymphatic tissue is spread throughout the body, thus allowing us to assume that there is normally lymphatic tissue in the skin. Secondly, the karyokinetic figures are very few, and do not seem adequate to produce the enormous number of cells which appear in these infiltrations in so short a time.

The finding, however, of even a few of the mitotic figures shows that this process does take place, to some extent at least. Furthermore, the tendency which these cells in the infiltrate show to group themselves in an arrangement very similar to that of lymphoid tissue supports strongly the plausibility of their preëxistence in the skin. Warthin cites the finding, in numerous instances, of the formation of new lymphatic tissue, especially in the thyroid and thymic glands. Although it is impossible to form a definite opinion, in view of the limited amount of evidence, it is safe to assume that the presence of part of the infiltrate is due to the mitotic division of the lymphoid cells.

Notwithstanding the confusion existing in the literature regarding the histopathology of mycosis fungoides, certain essential factors seem to stand out as characteristic of the condition. These, I believe, are all found in the case which I have just described. The case is reported therefore as one of mycosis fungoides of extremely unusual localization.

In looking over the literature, it was found that Hallopeau and François Dainville have reported a case in which the patient suffered from localized mycosis fungoides involving the face and ears. In this case, however, the condition was bilateral. Their patient was also syphilitic. L. M. Paurrier has seen a case with primitive tumors *d'emblée*, which showed two groups of lesions over the right scapula, one at the inferior angle, the other at the spine of the scapula. Hallopeau and Roche, in 1900, reported a case of mycosis fungoides limited in its manifestations to a facial tumor and an eczematoid eruption on one of the hands. The tumor formation in this case was very extensive, involving practically the entire face and to a certain extent the scalp. In none of the cases found in the literature was the localization of the tumors confined, as in this case, to one foot.

Having arrived at a diagnosis of mycosis fungoides it was decided to give the patient X-ray treatment. This was kindly undertaken in the Department of Roentgenology of the University Hospital, by Dr. Van Zwaluwenberg. The patient received her first exposure seven days after she entered the hospital. There was no marked change in the condition, although involution of the ulcerating lesions ap-

PLATE XIX.—To Illustrate Article on "A Case of Mycosis Fungoides Limited to One Foot," by DR. FRANCIS EUGENE SENEAR.



Fig. 1.

Mycosis Fungoides.

peared to take place more rapidly and the lesions were less painful. A second exposure, two weeks later, failed to cause any further change of note. Two weeks later the patient received an injection of old salvarsan, and three days following this, a third exposure to the X-ray. On the same day as this third exposure, it was found that the whole process was undergoing a rapid involution. The tumors seemed simply to melt away, the entire skin of the affected part became much cleaner and more healthy in appearance, and healing in the ulcerative lesions proceeded more swiftly. Since that time, the patient has received X-ray treatment once every two weeks, totaling four in all, and has received altogether four injections of old salvarsan. From the appearance of the foot at present, it is hard to conceive of a more brilliant therapeutic result than the one that has been secured. There are no longer any tumors present, the ulcerative and fungating lesions are all completely healed, and the skin, although still purplish and pigmented, is clean and smooth. The condition is now absolutely painless, and the patient has been able to wear a shoe and walk with perfect ease for two weeks.

The writer desires to make acknowledgment of the assistance given him by Professor Wile in the preparation of this paper, by his kindly suggestions and criticisms, also for the departmental facilities which were so generously placed at the writer's disposal.

LOCAL TREATMENT OF HYPERKERATOTIC ECZEMA OF THE PALMS AND SOLES.

By DOUGLASS W. MONTGOMERY, M.D., and GEORGE D.
CULVER, M.D., San Francisco.

THE object of this article is to present personal experiences in the treatment of hyperkeratotic eczema of the palms and soles, and the ways of managing the stubborn cases that have proven most satisfactory. It is not intended here to enter into an exhaustive discussion of the condition, nor of all methods of treating it. The fact that there are so many suggestions for its therapeutics indicates how difficult it has been to successfully treat the disease. Special factors which enter into the ætiology of eczema of the palms and soles accentuate the difficulties. For instance, the hands are exposed to in-

jurious influences, such as rough weather, water, cleansing agents, chemical solutions and various traumatisms, and the feet are commonly encased in ill fitting and deforming shoes, which produce callosities and breaking down of the arch, thereby increasing sweating of the soles and resulting in maceration of the keratotic, thick epithelium.

Probably in no other type of chronic eczema is local treatment more efficacious and more satisfactory than in hyperkeratotic eczema of the palms and soles. It is, however, not correspondingly simple. The agents most commonly used are salicylic acid, mercury, tar, lead, camphor, resorcin, potash, ichthyol, glycerin, alcohol, boric acid, the various oils and greases, and X-rays. A careful selection of the proper remedy at the most opportune time will often produce a surprisingly good result. It is in the selection of the best agent that the ability of the dermatologist is shown, and when the remedy is selected, much of the good to be achieved will depend upon the manner in which it is used.

The use of these remedies can best be shown by citing definite cases. A woman, thirty-five years of age, who worked on a sewing machine, sought advice on account of an obstinate eczema of the sides and palmar surface of the fingers, so painful as to prevent her from working. The soles and the extensor surfaces over the knees were also affected. The fingers were deeply fissured and there were marked hyperkeratotic epithelial masses, especially of the radial side of the index fingers, which had the rough, dried, white, harsh appearance of dried concrete. The deep, painful fissures ran mostly in a transverse direction, and reached down into the quirk.

Locally a plaster mull was employed, containing five per cent. salicylic acid in soap plaster:

R	Acidi salicylici	5%
	Emplastri saponis (Beiersdorf)	95%

This was applied on the fingers and covered with zinc oxide adhesive plaster, so as to intensify its action. This fortification by adhesive plaster is most important, and was first seen by one of us in Blaschko's clinic in Berlin. This was changed once in twenty-four hours. Under its use the hard, concrete-like hyperkeratosis of the fingers melted down, and the skin became smooth and supple. This plaster could not be applied to the feet as it would crumple up in walking, but an ointment was prepared of about twelve per cent. salicylic acid in equal parts of lanoline and vaseline, as follows:

R	Acidi salicylici	8.00
	Lanoline,	
	Vaseline	32.00
M.		

which she was directed to apply in the morning, so that in walking it would be massaged into the skin. A few days later, when the patient was able to resume her work, and the plaster mull could not be applied to the fingers during the day, as interfering with their functions, an ointment composed of one part of mercury in ninety-nine parts of simple ointment was used, as recommended by Veiel:¹

R	Hydrarg. salicylatis	1.00
	Ung. simplicis	99.00
M.		

This line of treatment, combined with the correction of functional disorders of a gastro-intestinal nature, was successful.

A patient presenting lesions of the fingers in many ways similar to the above, sought treatment after months of discomfort. He had rough, red patches on the fingers, covered with hypertrophic, yellow epithelium. He had hyperidrosis of the palms and soles, and also a large number of brown seborrhœic warts on the trunk. His eczema was first treated by the application, during the night, of the five per cent. salicylic acid soap plaster mull, previously mentioned. This was removed in the morning and a salve composed of six per cent. each of red oxide of mercury and camphor, and twelve per cent. of white lead, in an ointment base composed of equal parts of lanoline and vaseline, as follows:

R	Hydrarg. oxidi rubri,	
	Camphoræ	4.00 gms.
	Plumbi carbonatis	4.00 "
	Lanoline,	
	Vaseline	32.00 "
M.		

was well rubbed in, twice a day.

The affection improved, but the condition on the volar surface of the right thumb was the most difficult to modify. At intervals of two weeks, pure Russian oil of birch, oleum rusci, was rubbed into the spot. After five weeks the daily applications were changed from the above to a lotion consisting of:

¹ Zur Therapie des tyloatischen rhagadiformen Eczema der Handteller und Fusssohlen. THEODOR VEIEL, *Arch. f. Derm. u. Syph.*, May, 1912, p. 1181.

R	Kali caustic.	1.50	gms.
	Glycerin	50.00	"
	Spts. vini rect.	50.00	"
	Aq. rosæ	ad 150.00	"
M.	Sig.: Local use, twice a day, before using salve; and a salve consisting of:		
R	Hydrarg. salicylatis	0.30	gms.
	Paraffine	5.00	"
	Vaseline alb.	25.00	"
M.	Sig.: Rub in twice a day. ²		

Another patient, a stoutly built man, weighing one hundred and ninety-eight pounds, and forty-three years of age, of active occupation and in apparently good general health, sought treatment on account of a hyperkeratotic eczema of the fingers and right palm, which had been present and treated for many months. He also had hyperidrosis, accompanied with light red erythema of both palms. A lotion was prescribed, consisting of:

R	Liq. plumbi subacetatis	16.00	gms.
	Liq. carbonis detergentis	80.00	"

M. Sig.: Two teaspoonfuls in pint of hot water as a lotion and apply as compresses for ten minutes, twice a day.

There was also prescribed an ointment:

R	Ichthyoli	1.60	gms.
	Hydrarg. oxidi rubri	4.00	"
	Camphoræ	4.00	"
	Plumbi carbonatis	8.00	"
	Lanoline,		
	Vaseline	āā 32.00	"

M. Sig.: Rub well into the lesions twice a day, after soaking the hands in the lotion.

Some time after this, the liquor carbonis detergentis was painted on in full strength once a day, and the above dilute lotion of liquor carbonis detergentis and lead water was used only once a day, in the evening. The ointment was changed to one of:

R	Emplastri. plumbi,		
	Vaseline	āā 30.00	gms.
	Melt together over a slow fire, stirring constantly, and add:		
	Liq. creosol. comp.	1.20	gms.
M.	Sig.: Use on fingers twice a day.		

Six weeks after beginning treatment his lesions had all disappeared.

Some cases of eczema of the palms and soles are deeply indurated, even more so than in the syphilides, and in these cases the fissuring

² THEODOR VIEHL, *loc. cit.*

is deep and extremely painful. It is in this type that relief and improvement are procured through compresses and ointments. A striking instance was that of a fleshy woman of fifty years of age, who had had eczema of the palms and soles for a long time. Systemic treatment was most important here and was carefully prescribed. This, however, did not derogate from the efficacy of local treatment, which proved eminently satisfactory in her case. It consisted of the following:

R	Liq. plumbi subacetatis	16.00
	Liq. carbonis detergentis	80.00
M.	Sig.: 3j to pint of warm water and apply as directed.	

She was directed to apply the lotion with soft cloths encased in mits of oil silk or rubber tissue, throughout the night. By the way, the rubber bags, used for holding sponges in travelling, are excellent for this purpose. During the day an ointment consisting of two per cent. liquor cresolis compound in equal parts of lead plaster and vaseline, as given above, proved most satisfactory. This ointment almost always does well on the feet, but is not always so satisfactory for the hands.

In a number of instances where other applications have failed, resorcin, in less than four per cent. strength, has been found excellent. A good prescription is as follows:

R	Resorcini	2.00
	Glycerini	2.00
	Zinci oxidi	7.50
	Ceræ albæ	1.50
	Adipis benzoatæ	50.00

Dissolve the resorcin in heated glycerin. Melt together the wax and the lard, and add, while constantly stirring, the dissolved resorcin and the well-triturated oxide of zinc. Sig.: Rub in well, twice a day.

The officinal unguentum acidi borici often acts well; the white precipitate in two to four per cent. strength in an ointment, may, in some instances, be better than the salicylate of mercury as given in one of the above prescriptions.

Some of the best results in treating eczema of the soles, and especially of the palms, have been obtained by the use of the X-rays, after all other lines of treatment have failed, for months or even years. It is of such marked therapeutic value in some of the hyperkeratotic eczemas of these parts that patients cured by its use look upon its results as marvellous. Its best effects are upon long standing cases with marked hyperkeratosis. Jadassohn says that in chronic, persistently recurrent eczema, especially of the hands and feet, X-rays often give good results; and the impression is also given that

the parts are rendered more resistant to external irritants, and are not so liable to recurrences.³

An instance in which it alone proved efficacious as a cure was that of a man, forty years old, who had a stubborn, indurated desquamative eczema on the right palm, continuously for over two years. He also had eczema of the toes and of the anterior angle of the right nostril. The eczema of the palm resembled a circinate serpiginous syphilide, and it had been so diagnosed and treated without result. He had a negative Wassermann. His treatment otherwise had been varied and of long duration. After a distinct reaction was produced by intermittent X-ray exposures, the eczema disappeared rapidly. The patient has not had a recurrence during the last three years.

An example of a case in which the X-rays proved Jadassohn's contention that the parts become more resistant after its use, is that of a man, thirty-eight years old, in the saloon business, who had improved under treatment, but had become worse owing to the necessity, in his work, of wetting the hands so frequently. After ten intermittent X-ray exposures, during a period of twenty-two days, a slight reaction was obtained. Each exposure was for ten minutes, at a distance of about ten centimetres. A medium tube was used with a current of thirty volts and an amperage of two. His cure was complete.

Another case of eczema of the palms which had been present fifteen years, cleared up and has remained so after ten X-ray exposures, indicating that even a period of many years' duration does not prevent the possibility of a complete cure. In this case there was a corneous patch on the back of the thumb, which was more stubborn than the palmar surface, but which finally yielded.

In conclusion, as stated above, desquamative eczema of the palms and soles is greatly influenced by local treatment, but the treatment has to be selected specifically for the individual patient. The requirements are so varied that the therapeutics of this type of eczema constitute no small affair. The end results as definitely justify the wide range of remedies as do those of any similar problem in dermatology. A guarded prognosis should always be given the patient, as the physician may expect surprises, sometimes gratifying, but often discouraging. Not much satisfaction is gotten out of the fact that one's fellow dermatologists have also their troubles in the treatment of these eczemas. The patients are an exceptionally grateful lot when helped, and they are not unduly condemnatory when first efforts in treatment are failures.

³ *Dermatologie*, DARIER; annotated by JADASSOHN, 1913, p. 49.

CLINICAL REPORT.

A CASE OF PELLAGRA IN NEW YORK.

By GEORGE M. MACKEE, M.D., New York.

ACCORDING to Wende (*Med. Jour.*, Buffalo, May, 1911) who quotes from Babcock's statistics, there were from five to seven thousand cases of pellagra in the United States between 1906 and 1911, a period of five years. From his knowledge of the literature, Wende concludes "that the disease is endemic and relatively common in Alabama, North and South Carolina, Florida, Georgia, Illinois, Louisiana, Mississippi, Texas, Tennessee and Virginia; endemic and relatively uncommon in Arkansas, California, Kansas, Kentucky, Maryland, Oklahoma and Pennsylvania; sporadic and imported in Indiana, Iowa, Michigan, Missouri, Massachusetts, New Mexico, New Jersey, Ohio, Rhode Island, Vermont, West Virginia, Wisconsin and Washington."

In New York State the disease is exceedingly uncommon. John Gray (*Am. Jour. Insan.*, 1864-65, xxi, p. 223, quoted by Wende) reported a case of pellagra that had been imported into New York State. Sherwell (*Jour. Cutan. Dis.*, 1882, No. 1, p. 142; *Trans. Am. Dermat. Assn.*, 1902, p. 76) reported two imported cases. Howard Fox (*Med. Jour.*, New York, Feb. 26, 1910) presented a case of pellagra before the Dermatological Section of the New York Academy of Medicine. The patient had developed the disease in Georgia. Fox refers to two imported cases, one seen by Fordyce at the City Hospital and another seen by Lavender at the Marine Hospital on Staten Island. In a verbal communication Fordyce told me he saw an imported case in Bellevue Hospital last year.

Apparently there have been but three indigenous cases in New York State. The first was reported by Caccini (*Med. Rec.*, March 11, 1911, quoted by Wende). The second was recorded by Wende (*loc. cit.*) and the third is my case. It is quite possible that reported cases have been overlooked as I have not searched the literature carefully and it is likely, also, that cases have occurred that have not been reported.

The following case of pellagra came under my observation last year in the service of Dr. Thomas Kelly in St. Vincent's Hospital, New York City.

CASE REPORT.

The patient, a Sister of Charity, 22 years of age, was born in New York City, of Italian parents. She remained in New York City until about the age of 16, when she entered a Catholic institution in the neighborhood of this city, where she remained until she was sent to St. Vincent's Hospital. She had never been out of the State of New York; in fact, she had never been many miles from New York City.

Previously of good health, she noticed loss of appetite and weight about four years ago. Later she had mild attacks of diarrhœa. About two years ago melan- cholia developed and grew progressively worse. The cutaneous lesions did not develop until a few months prior to my first observation in May, 1914.

EXAMINATION.—The skin of the hands, face and toes was involved. On the feet the dorsal surfaces of all the toes were involved. Here, however, the eruption extended from the ends of the toes only to the tarso-metatarsal articulations, where it ended in a well-marked margin. The appearance of the skin in the affected areas corresponded with the eruption on the hands soon to be described.

On the face there was a poorly defined, silver-dollar-sized area on the forehead which consisted of slight infiltration with dark-gray, adherent scales. The same condition was noticed in the neighborhood of the nasal alæ and on the chin.

The hands were typically pellagrous. Here the eruption occupied both the dorsal and palmar surfaces, extending from the tips of the fingers to just above the wrist joint. The skin over the entire affected area was thickened, rough, wrinkled, and covered with fine, adherent scales. The scaliness could only be seen on close inspection. The color was a "dirty" or blackish-gray. At the wrist there was a sharp line of demarcation, the "collar" extending around the entire circumference of the forearm. The skin in this band was thicker than in any other part of the diseased area, the scaliness was more pronounced, and the scales were not so adherent. For about one-quarter to one-half inch above the collar there was an area of erythema.

The patient was in fairly good general health. She was thin, but not emaciated. The appetite was poor. There were occasional attacks of mild diarrhœa. An examination of the thoracic and abdominal viscera revealed nothing of importance. The only neurological symptom was melancholia, which was not extreme.

The patient was sent to one of the Catholic institutions on Staten Island, where, under the influence of rest, diet, tonics, etc., the cutaneous manifestations disappeared and the mental condition improved to a marked degree.

The ætiology in this case is especially obscure. The patient was educated and refined. She had always enjoyed the benefits of a good environment, proper food, hygiene, etc. Corn meal had been used only occasionally.

In conclusion I desire to thank Dr. Thomas Kelly and the authorities at St. Vincent's Hospital for their kindness in allowing me to report this case.

PLATE XX.—To Illustrate Article on "A Case of Pellagra in New York,"
by DR. GEORGE M. MACKEE.



Fig. 1.
Pellagra.
Showing thickened, wrinkled and scaly skin. Note collar at wrist with
outlying erythema.

SPECIAL ARTICLE

THE METABOLIC INFLUENCE OF THE CHLORIDES ON
CERTAIN DERMATOSES.*

BY M. L. RAVITCH, M.D., AND S. A. STEINBERG, M.D.,
Louisville.

THE fact that the chlorides, particularly of sodium and calcium, form a great ætiological factor in the production of certain dermatoses, has been pointed out by many investigators and writers on dermatological subjects. Luithlen, of Vienna, in his many contributions to the biochemistry of the skin, calls particular attention to the importance of retention and secretion of sodium chloride in infantile eczema. Though his views differ from those of the well-known pediatrician, Finkelstein, he finds support for his theories in the work of prominent investigators, such as Freund, Czerny and Bloch, not to mention others. Before going into the subject of chlorides in dermatoses, we shall give a brief résumé of the metabolism of the chlorides.

Chlorides are usually present in the diet in sufficient amount for the healthy individual, existing mainly in our food as NaCl, KCl and CaCl. The chloride of sodium makes up about 95% of the total chlorides of the ordinary diet, though there is a smaller proportion of sodium in a vegetable diet than in a meat diet. Nearly all the chlorides of the food are absorbed from the intestine, thence entering the circulation by way of the portal system. However, the ability of the body to absorb chlorides depends partly upon the form in which they are ingested; a normal individual will absorb almost unlimited amounts of NaCl, with only traces appearing in the fæces, but not so with KCl or CaCl. Chlorides are absorbed freely through the mucous membranes, but not at all through the unbroken skin: a salt solution will pass through a badly excoriated skin surface or a wound.

Excretion of chlorides takes place almost altogether through the kidneys, only a small part passing out with the fæces or appearing on

* This is the first of a series of articles on the subject of Physiological Chemistry by Dr. Ravitch. There will be a short installment in each issue of THE JOURNAL.

the skin with the sweat. The amount of the chlorides in the urine in health depends upon the amount ingested, but is usually from ten to fifteen grams daily.

Chlorine probably exists in the body in an inorganic form only, as chlorides, and never in organic combination, though it has been suggested that there may be loose combinations of the ions of salts with proteins, thus giving the protein the chemical activity necessary to explain certain interactions in which the proteins of the body are engaged. The chlorides, certainly NaCl and CaCl, are necessary to certain processes of the body, and cells deprived of them no longer possess the ability to continue their activities. Certain reactions of immunity *in vitro* will not occur in their absence. Bordet has shown that agglutinins for typhoid or other bacteria do not agglutinate their antigenic bacteria, but merely form complexes with them which are agglutinable by the salts, but do not agglutinate if they are absent. A certain amount of salt is necessary for continuance of life; a greater amount for the best physiological activity. The percentage of chlorides in healthy human blood is very constant, corresponding to .45% to .47% of NaCl, while muscle tissue contains an amount only corresponding to .0701%. Generally speaking, the greater amount of fluid in a tissue, the larger will be the percentage of chlorides in that tissue. Altogether, the average adult human body contains about 140 grams of chlorides. Normally this is but little excess above the physiological needs, as is shown by the result of the withdrawal of chlorides from the diet—equilibrium is established after the loss of 12% to 15% of the total body content of chlorine, and no more will be given up. Until more is known of the structure of the cell, and the presence or the absence of a membrane about it, with the composition and properties of such a membrane, if present, the metabolistic activities of, and necessity for chlorides cannot be explained, nor the mechanism of certain pathological phenomena exhibited by organic tissues. Osmosis has been advanced as an explanation of a part of the action and distribution of the chlorides. Varying solubility of the chlorides in the different compounds of the body, in all probability, is also a governing agent. Overton, with his revised theory of a cell membrane composed of a mosaic of lecithin, cholesterine, proteids and other colloids, gives the greater influence to osmosis; Martin Fisher rejects it almost altogether for colloidal solubility.

Osmosis depends upon the power of fluids and crystalloid substances in solution to pass through certain organic animal membranes. There is usually some resistance to the passage of crystalloids and

the bombardment of the ion and molecules against the membrane will cause a bulging of the membrane, but after a shorter or a longer time the crystalloids will pass through until they are in the same concentration on both sides of the membrane. The amount of pressure that the solutions will exert depends upon the number of molecules and ions of crystalloids in solution, an ion being able to exert as much pressure as a molecule. Colloidal substances, such as proteins, exert no, or extremely slight, osmotic pressure. All the inorganic salts of the body are crystalloids, as are many organic compounds, such as urea, uric acid, the purin bases, the sugars, amino-acids, etc. In human blood the osmotic tension corresponds to .9% NaCl. This does not mean that there are 9 grams to the litre of blood, for part of the osmotic tension is due to other salts, and part to certain organic substances, mainly glucose, urea and creatin. The crystalloid organic substances in the blood cause about one-quarter of the total osmotic tension, the inorganic salts about three-quarters; of this latter function the chlorides form from 50% to 66 $\frac{2}{3}$ % of the whole. The constancy in the proportion of NaCl in the blood largely accounts for the extremely slight variations in the osmotic tension, the ratio of NaCl to the osmotic tension of the blood remaining almost always the same in health. Probably all the tissues of the body are permeable to the Cl-ion, but offer some resistance to its passage either way, so that if the cells are placed in a hypertonic solution they give up water to dilute the stronger salt solution, rather than permit the passage of the salt into themselves, as long as they can; however, while losing the water the cells are gaining some salt, and this continues until the concentration of salt without and within the cell is equal. If the cells are placed in a hypotonic solution they absorb water to dilute their own salts to the same tension as the fluid without, resisting the passage of their salts outward just as much as the entrance of the salt in the previous case. That is why, in a hypotonic solution, the red blood cells will swell up considerably, even to the point of hæmolytic, while in a hypertonic solution they will shrink and become crenated: in the latter, too, the mucosal cells of the stomach become strongly irritated, which accounts for the emetic effect of strong solutions of salt.

The influence of chlorides on protein metabolism in health is very slight. Withdrawal of the chlorides from the diet, according to Belli, causes some loss of nitrogen: also the weight of the body is decreased, partly due to loss of flesh, partly to loss of salt and water. In starvation small doses increase the amount of water in the tissues and increase the powers of resistance of the organism.

In acute starvation the body is quickly impoverished of its excess of chlorides, and the urinary chlorides diminish more than the other mineral constituents.

Retention of chlorine is met with in many febrile processes, particularly in pneumonia, and to a less extent and not so regularly in typhoid fever, typhus, intermittent fever, scarlatina, measles and in sepsis. It is sometimes observed in rheumatic fever, gall-stones, phthisis, cardiac incompetence and gastric carcinoma, and particularly when there is a large excess of chlorides in the diet. Retention is not observed in all infectious processes; sometimes just the reverse is the case, e.g., in malaria. The retention of the chlorides in infections has been attributed to the increased excretion of the phosphates; i.e., that it is an effort to maintain the osmotic tension of the blood and tissues, decreased by the loss of the phosphates. However, the elimination of phosphoric acid varies more than that of the chlorine in many infections, while, as Gourand has observed, during the fever of pneumonia the phosphates are decreased as well as the chlorides.

There is often an increase in the chloride content of the blood in anæmias and leukæmias. In renal diseases there have been many observations made upon the chloride intake and output. Sometimes these are equal. Usually the retention of the urea is accompanied by a lessened output of chlorides, though not so marked as the change in the urea figures. A good excretion of chlorides occurs chiefly when the kidneys are excreting water freely and the total urinary nitrogen is high. Sometimes there is an increase in the excreted chlorides over the intake, due to the loss of stored-up NaCl, and this is usually accompanied by disappearance of any œdema which may be present; or disappearance of the œdema may be brought about by lessening the chloride intake. On the other hand, as has been pointed out by Von Noorden and lately by Martin Fisher, there are cases where an increase of the NaCl intake has caused an increase in the excretion and a lessening of the body content of the chlorides, with disappearance of the œdema. One explanation advanced for this is that the chlorides have stimulated the excretory power of the kidneys for chlorides. On the other hand, other cases which show considerable retention of chlorides in the body and a low amount in the urine fail to show sufficient increase in the urinary chlorides, or even a decrease, on the administration of chlorides, whether by mouth or intravenously. A case was observed by Widal and Javal of an individual with nephritis who would always become œdematous after the administration of NaCl, while its withdrawal would cause

free diuresis and diminution of the œdema. The conclusion drawn from the study of the figures of many investigators on chlorides in nephritis is that the chief retention of chlorides in renal diseases is in acute nephritis at its worst, and in chronic parenchymatous nephritis; in granular kidney only during the acute inflammatory exacerbations and when cardiac compensation fails. All these conditions coexist with œdema.

There are various theories as to the causes of retention of chlorides in œdema; one is that the retention of water is primary, due to the incapacity of the kidneys to excrete it, to weakness of the circulation, or to some increased attraction of the tissues for water. According to this theory, the NaCl retention follows from the attraction of the water for enough salt to maintain the osmotic tension. Another theory is that the deposition of the salt may be due to a chemical alteration of the tissues, or to a functional incapacity of the kidneys to excrete NaCl. It would go far to solve the question as to which is the first to appear in the tissues if the ratio of NaCl in œdematous tissues to that in the blood was always the same, but sometimes œdematous tissues contain more NaCl than the blood and sometimes less. It is certain that œdema may increase even while the excretion of chlorides is increased. Also considerable retention of chlorides may occur without œdema. Marie explains these facts as follows: A certain quantity of salts can be taken up and fixed by the tissues; this fixation occurs in the preliminary stages of œdema, and persists even after diuresis has begun; it is not until the tissues have become saturated with salt and can absorb no more that chlorides begin to accumulate in the tissue-fluids, where they attract water and cause œdema. It is only after the water has been gotten rid of by the kidneys that this fixed salt begins to leave the tissues. Bohne suggested that the chlorides, or sodium chloride, might possess a specific toxic action, causing uræmia. However, accumulation of chlorides occurs in other conditions besides nephritis without causing any lessening in the production or excretion of urea. A newer explanation of œdema is advanced by Martin Fisher. In many intoxications and diseases there is an acidity, or at least a decreased alkalinity, of the tissues. This increases the ability of the colloids of the cell-protoplasm to absorb water, and it is to this absorption of water that Fisher attributes the œdema. Since NaCl will diminish the attraction of colloids for water, Fisher believes that not only do chlorides not cause or increase œdema, but that their administration will cause a diminution of the œdema. However, while the premises regarding the attraction of colloids for water and

the effect of acidity and concentration of salts upon it are correct, this theory does not explain in a satisfactory way why there is usually a retention of chlorides in these conditions, and why this retention does not, so far as is known, cause a decrease of the oedema.

In skin diseases, Grosz did considerable work on the chlorides, and particularly in prurigo. He came to the conclusion that the chloride output is usually increased, but that periods of retention and increased elimination alternate. In view of the importance that is being attributed at present to the internal secretions as a cause of skin diseases, it may be mentioned here that feeding with thyroid gland causes the excretion of chlorides to rise for a short time, followed by a compensatory retention, until the chloride content of the body is back to normal. In Grave's disease the skin may excrete considerable chlorides in the sweat. In chloride acne Herxheimer claims that chlorides are to be found in the contents of the acne pustule. Lehman corroborates this and says that this disease may be produced by feeding of organic chlorine compounds which are excreted as inorganic chlorides by the sebaceous glands. In so many dermatoses there is an increase in the lymph content of the skin that is particularly of interest to the dermatologist whether or not this may be caused by a deficiency of chlorides, what influence the administration of chlorides would have upon it, and what is the effect of lowering the acidity and raising the concentration of the salts upon this lymph production. It seems to us that especially is this important in the eczemas, and particularly those of an infantile type.

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(To be continued.)

COMMITTEE REPORT

REPORT OF THE COMMITTEE ON CLASSIFICATION
AND NOMENCLATURE, 38th ANNUAL MEETING,
AMERICAN DERMATOLOGICAL ASSOCIATION,
CHICAGO, ILL., MAY 6-8, 1914.

BY

GEORGE HENRY FOX, M.D., *Chairman.*

AS chairman of the Committee on Classification and Nomenclature I had in mind, a year ago, the preparation of an elaborate and exhaustive report, to be based on the labor of my colleagues, and to be followed by a general and profitable discussion. This idea—a pleasant vision while it lasted—has long since vanished into thin air. Since our program apparently calls for introductory remarks in place of a committee report, I beg to remark, at the outset, that your committee, considered collectively, is a failure, and I trust it will not be continued in office. Living in cities far apart, it has been impracticable to get all together for the purpose of discussion, and in the future I am convinced that more can be accomplished by individual effort than by any possible committee. I hope that at each annual meeting hereafter a little time will be devoted to the subject of nomenclature, and that one or more members will offer suggestions regarding the classification or proper grouping of certain dermatoses and the names which are most desirable and worthy of official sanction. Such suggestions, in my opinion, should be briefly discussed at the meeting at which they are offered and acted upon at a subsequent meeting, during which time the matter can receive due consideration and any hasty action thereby prevented.

At this meeting Dr. Pollitzer will present some views as to the grouping of certain diseases more or less closely related, and if you care to listen, I will comment briefly on some general principles of dermatological nomenclature and propose a few changes which seem advisable to the majority of our members.

It will be admitted by all that uniformity in the use of names by teachers of dermatology in America is most desirable. It may be claimed that since foreign nations are equally interested in the matter of dermatological nomenclature, the choice of names should

be left for decision by an international congress. Such a plan would be advisable were it not for the unfortunate fact that it is utterly impracticable. If it were conceivable that our French and German confrères could be induced to give up their time-honored custom in the use of dermatological names, it is far more probable that they would accept suggestions from across the ocean rather than from the other side of the Rhine. And after all, it is chiefly for ourselves that uniformity in nomenclature is urged. It matters little to us what the students in Rome or St. Petersburg are taught to call a disease, particularly when different names are used. But it is essential that teachers in Boston, San Francisco and New Orleans, not to speak of midway cities, should employ the same names in speaking of common or well-recognized dermatoses.

I will not raise the point as to whether our association or the Dermatological Section of the A. M. A. best represents the rank and file of American dermatologists, but will say, without hesitation, that none of us would like to see any organization other than our own assume the privilege, the responsibility and the honor of doing this important service to American dermatology.

Absolute perfection in nomenclature, as in most other things, is Utopian. The temple of perfect dermatological nomenclature lies far beyond our present horizon. We cannot accomplish much at the outset, but little by little and from year to year we can do some work that will be of great service to those who come after us. The first and chief difficulty we have to contend with—and it is a veritable lion in our path—is the reluctance we all have to change the habit of years. Some of us are so conservative by nature and growing so old, according to the calendar, that we are ever ready to say, "What's the use of making any change? I'm satisfied with things as they are." And yet this tendency to conservatism is far better than the desire to upset everything by means of a hasty change.

In any attempt to improve our nomenclature let us never forget that we are not working merely for ourselves, but for that most important body, the coming generation of American dermatologists. Let us not select the names which we prefer to use, but those names which we think another generation ought to use with due regard to convenience and propriety. Let us also remember that while it may be difficult for us to make a change, a new generation will learn one name as readily as another. I have been repeatedly surprised to note that the small boy with his illustrated book of animals makes friends with the gnu and the zebu much quicker than with

the elephant and the rhinoceros. Why? Because their names are shorter and all the names, like the animals they represent, are equally strange to him. In like manner, the coming generation will learn one name as readily as another. It is for us to select the best one.

For a name likely to be in daily use, a most important desideratum is that it be reasonably short. And since the function of a name is merely to designate something, a disease in the present case, there is no necessity whatever that it should contain a description of the object designated. Our French confrères have sinned most grievously in this respect, and I regret to note that their vicious habit has apparently corrupted some of us who take an unholy delight in speaking of *érythrodermie pityriasique en plaques disséminées*. Parapsoriasis, though not above criticism, is an angelic name compared with such a diabolical title. The name *pellagra* is short and euphonic as well as definite. Imagine my horror at the suggestion of a good friend and highly esteemed colleague, who proposes to change it to *erythema toxicum epidemicum recurrens*!

A disease, if possible, should have but a single name, such as *acne* or *psoriasis*, and then with adjectives to indicate clinical forms, localization or other peculiarities, we can make it long enough to satisfy the most fastidious taste. We have many double names, like *lichen planus* and *lupus erythematosus*, which it may be undesirable to change, but what reason exists, I pray you to tell, for the use of names like *dermatitis papillaris capillitii* and *acrodermatitis chronica atrophicans*? It would be far better, or at least far more convenient, to number or letter our diseases than to burden our nomenclature and inflict upon innocent students many more names of this description. Let me repeat and reiterate, that the object of a name is to designate a disease and not to describe it.

There has been a tendency, in past years, to group a number of wholly unrelated diseases on account of some unimportant symptom such as desquamation, and to use a generic title. It is this unfortunate idea that is responsible for the association, in name at least, of *pityriasis rubra*, a severe and usually incurable disease, with dandruff of the scalp and the harmless *versicolor* patches upon the chest. The attempt to combine certain parasitic diseases under the generic title of *tinea* has given us the name of *tinea favosa* which we rightly persist in calling *favus* and *tinea trichophytina*, which is commonly spoken of as ringworm, a good name to which there is only one objection. It is English. Now, what we need is a list of convenient, every-day names for common use in designating diseases and not a lot of "Sunday-go-to-meeting" titles, never heard outside of the textbook or lecture room.

The question of using proper names in the genitive after the word "morbus" is a debatable one. Morbus Addisonii is our only name at present for Addison's disease, and when one mentions Raynaud's disease he rarely speaks of it as asphyxia localis, because this name lacks the essential qualities of being short and euphonic. In botanical nomenclature such names are freely used, and on the pages of every botanical textbook or horticultural catalogue we find the illustrious name of every great botanist or florist of the past and present. Names reflecting honor upon pioneers in dermatology, who have first described diseases, might be more convenient than other names in common use, though it would not be in accord with the general plan which we have adopted, and hence is not to be recommended.

In order to call attention of the Association to the subject of nomenclature and to elicit a variety of opinions, I recently took the liberty of jotting down a few names hastily and asking for the choice of each member. I received answers from about two-thirds of the members and a number of valuable suggestions. The majority were in favor of omitting some names from our list, of adding a larger number, and of making a very few changes. On this as a basis and with the approval of the members of your committee present at this meeting, I would propose that the following omissions, additions and changes be made:*

OMIT.

Anæsthesia.

Hyperæsthesia.

Paræsthesia.

Staphylococcia.

ADD.

Abscessus.

Alopecia furfuracea.

Leucoplakia.

Lingua geographica.

Epidermolysis bullosa.

Sporotrichosis.

Acarodermatitis (grain itch).

Prurigo nodularis.

CHANGE.

Steatoma for atheroma.

Molluscum for m. contagiosum.

Favus for tinea favosa.

Trichophytosis for tinea trichophytina.

Xanthelasma for xanthoma palpebrarum.

* NOTE. By a vote of the Association, this modification of the official nomenclature was adopted.

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DR. POLLITZER said that he would limit his contribution to the subject to the discussion of a few points. The alphabetical list of diseases employed by the members of the Association in reporting their annual statistics had been increased from time to time by the addition of new titles as new disease types were described and recognized by dermatologists in general. The group of diseases, the first of which was described in 1890 by Unna, Santi and the speaker under the name of parakeratosis variegata, had never received the formal recognition of the Association implied by inclusion in its list, though the disease in its various forms was well known to our members, and many cases had been shown at our clinical meetings for many years past. Since the publication of the first case Dr. Pollitzer said, two other forms of the disease had been described, so that there were recognized a lichenoid form, a small, maculo-squamous or guttate form and a widely disseminated form occurring in extensive patches. On these points all dermatologists were in accord, but they differed widely in the choice of names with which they designated the disease. *Dermatitis psoriasiformis nodularis*; *parapsoriasis lichenoides guttata*, etc.; *xantho-erythrodermia perstans*; *érythrodermie pityriasique en plaques disséminées*—were some of the names employed for the various forms of the disease. Parapsoriasis seemed to be the term most often used in this country, though there was no unanimity on the subject. Now, the term parapsoriasis, by implying a relationship to psoriasis, a relation which in reality did not exist, was objectionable because it tended to confuse the student, the beginner in dermatology. Dr. Pollitzer said he knew of no satisfactory objection to the generic term originally proposed for the disease in question, namely, parakeratosis. It was true that this was a histopathological term for a condition that occurred in many diseases, but so was keratosis, acanthosis and many another term which we employed with a qualifying adjective as the name of a disease. The term parakeratosis had the merit of comparative brevity; it was based on a definite anatomical condition underlying the disease; it did not predicate any theory; and, finally, it had the advantage of historical priority. For the three varieties of the affection in question, Dr. Pollitzer said he would recommend the adoption by the Association of the terms parakeratosis lichenoides (lichenoides he thought was preferable to the original term variegata); parakeratosis guttata, and parakeratosis diffusa, the last for the Brocq type, *érythrodermie pityriasique en plaques disséminées*.

The second matter, Dr. Pollitzer said, to which he wished to refer was the classification of the xanthomata. At present, dermatologists divided the cutaneous xanthomata into (a) xanthoma planum, under which name they referred to the yellow plates occurring about the eye; (b) xanthoma tuberosum; and (c) xanthoma diabetorum. Without desiring to enter into a discussion of the nature and pathology of the xanthomata, Dr. Pollitzer said he thought the time had arrived for a recognition in our nomenclature of the clinical fact that the so-called xanthoma of the eyelids had nothing to do with the disseminated nodular forms, and he would recommend that the Association adopt the term xanthelasma, signifying a yellow plate, for the eyelid form, the old xanthoma planum palpebrarum, and reserve the term xanthoma tuberosum, with the term diabetorum as a sub-variety, for the nodular and the glycosuric forms.

Finally, Dr. Pollitzer said, he would be glad to hear the views of the members of the Association on the tuberculoses and the tuberculides. Our knowledge of the diseases included in these groups was fairly definite as to some of them and very vague as to others. We were all agreed that the tubercle bacillus in the skin produced certain definite clinical types of disease, but when we came to consider the so-called tuberculides, we found ourselves in a state of confusion. The term tuberculide, the introduction of which by Darier was hailed as a flash of genius, had come to be used for the greatest variety of diseases which were related to each other only by a supposed connection with the tubercle bacillus more or less directly, or in some unknown way with its toxic products. A disease

due to the direct local effect of active tubercle bacilli, like lupus vulgaris, was not included among the tuberculides. But where, the speaker asked, should we place a disease like erythema induratum, Bazin, which bore a strong resemblance, histologically, to tubercle tissue, in which active, viable tubercle bacilli had been found in a few cases, apparently dead bacilli in some others, and no bacilli at all in the majority of cases?

In lupus erythematosus we had an example of a disease that presented nothing of the histological characteristics of tuberculosis, and yet quite recently tubercle bacilli had been found in some forms, as yet ill-defined, of the disease. In the sarcoid of Boeck and Darier we found a structure greatly resembling that of tuberculous tissue, but neither by staining nor by inoculation had it been possible to demonstrate tubercle bacilli. And when finally we came to a consideration of a diffuse, scaling erythrodermia—pityriasis rubra of Hebra—in which neither tubercle bacilli nor a tuberculous structure were found in the skin, but which nevertheless seemed dependent, at least in many of the cases, on the action of tuberculo-toxins, it was apparent that the attempt to make an ætiological classification was as hopeless, and, in the speaker's opinion, as useless as would be a similar attempt at classifying the diseases due to the staphylococci or their toxins. Further, the very term tuberculide was open to the objection that in the mind of the beginner in dermatology it conveyed a false impression. We used the term syphilide to imply the diseases of the skin due to syphilis, i. e., to the spirochæta pallida. The term tuberculide, by analogy, should imply the diseases of the skin due to the tubercle bacillus. Indeed, it was interesting to recall the fact that twenty years ago our late associate, Dr. Henry G. Piffard, used the term tuberculide in exactly this sense; that is, for lupus vulgaris, tuberculosis verrucosa, etc. But as used to-day, the tuberculides were precisely not the diseases in which the tubercle bacilli were found in the skin. It seemed to him, Dr. Pollitzer said, that while the term had been and still was of great value as a "working hypothesis" and would always serve to mark an important epoch in cutaneous pathology, it was of no value in a practical system of classification. At the present time, while dermatologists the world over were speaking of tuberculides and employing an endless variety of terms for the different forms, and while our knowledge on this subject was still in a state of flux, it would be well if we were all agreed on certain names, and he would recommend the following terms, modified from the classification which Darier had made:

A. Tuberculida cutanea.

1. Tuberculidum lichenoides (lichen scrofulosorum).
2. Tuberculidum papulo-necroticum (folliclis; acnitis?).
3. Tuberculidum acneiforme (acne cachecticorum).
4. Tuberculidum lupoides (sarcoid of Boeck).

B. Tuberculida subcutanea.

1. Tuberculidum induratum (Bazin).
2. Tuberculidum lupoides subcutaneum (Darier-Roussy).

It will be seen that a number of diseases like lupus erythematosus, pityriasis rubra, angiokeratoma, etc., whose relationship to this group was very doubtful, were entirely omitted; and secondly, that the term sarcoid, a term which had originally been introduced by Kaposi in an entirely different sense, and which by its suggestion of a relationship to sarcoma was misleading and confusing, was relegated to a dermatological midden where it was hoped it may be buried and forgotten!

A classification of the true tuberculides, that is, the tuberculosis of the skin, Dr. Pollitzer said, presented far less difficulties. It would be a distinct gain if all the different clinical forms were grouped together under a single name. To

label one form of cutaneous tuberculosis a wolf (*lupus*) and another form a little pig (*scrofula*) might be considered picturesque, but it certainly was not helpful to the student, and nothing but an exaggerated respect for antiquity could justify the retention of these absurd and meaningless names in our system. The speaker said he would like to have this Association, making a new Declaration of Independence, lead the way to a more rational terminology. All the forms of cutaneous tuberculosis should be called, he thought, *tuberculodermata*. The various types should be indicated by a descriptive adjective, and in the selection of this adjective, regard for tradition and custom might be observed in naming the most frequent of the *tuberculodermata*, *luposum*. All the *tuberculodermata* were comparatively rare in this country, and probably all the clinical forms may be included in the following list:

1. *Tuberculoderma luposum* (*lupus vulgaris*).
2. *Tuberculoderma gummatosum* (*scrofuloderma*).
3. *Tuberculoderma verrucosum*.
4. *Tuberculoderma fungosum* (*frambœisiforme*).
5. *Tuberculoderma ulcerosum*.

In a nomenclature of this kind it would be a simple matter, Dr. Pollitzer said, to add new names as new forms of tuberculous affections of the skin were described. If Bazin's disease or some forms of *lupus erythematosus* should be found to be true tuberculosis, there would be no difficulty in ranging them under the *tuberculodermata*, with a suitable qualifying adjective.

The singular advantages which the dermatologist enjoyed, Dr. Pollitzer said, over his colleagues in other branches of medicine in regard to facility and accuracy of observation resulted in a more minute sub-division of clinical forms than was possible in other branches. The result was a multiplication of names which were significant and important to the dermatologist, but were puzzling to the beginner and seemed vain and useless to physicians in general. From this point of view alone it would be a distinct gain if we could adopt group names as far as possible. The *tuberculodermata* constituted a distinct and relatively simple group, and this term seemed to be worthy of adoption by the Association.

DR. HARTZELL said that, as a member of the Committee on Nomenclature, he wished to express his disapproval of the term *molluscum contagiosum*. While *molluscum* might be a good zoological term as applied to oysters and other varieties of mollusks, it could be dispensed with in describing dermatological conditions. Why not call this disease what it was, an epithelial neoplasm? Why not call it *epithelioma contagiosum*?

Dr. Hartzell said it seemed to him that one of the things to be aimed at in naming a disease was either to convey by its name some idea of the nature of the disease, or, if ignorant of that, to employ a name that would not commit us to any theory as yet unproven. He was in accord with the idea to term all affections due to the *trichophyton trichophytoses*. He was opposed to the word ringworm, because the affection was not a ring and certainly not a worm. Why call tuberculosis of the skin *lupus*, a name applied to a lesion which bore no relationship to a wolf? Why not call it *tuberculosis cutis*? The term *érythrodermie pityriasique en plaques disséminées*, while rather long, committed us to nothing and at the same time gave us some idea of the characteristic features of this disease. We should make haste slowly in changing some of these names which conveyed some idea of the clinical features of the disease. Of course, when we knew the ætiology, let us embody it in the name, if possible.

DR. ZEISLER said that as a rather inactive member of this Committee on Nomenclature, he was perfectly willing to subscribe to most of the suggestions that had been made by Drs. Fox and Pollitzer. If we attempted to discuss this subject on its merits, the discussion could be prolonged indefinitely. The nomen-

clature or classification of skin diseases was not a subject for voting, but for discussion, and it would doubtless give rise to widely divergent views. At a meeting of this kind it was impossible to go over the entire list or review the present classification. Personally, he would like to see the reports of Drs. Fox and Pollitzer in print, so that the members could study the recommendations at their leisure, and we should not feel too optimistic in the hope of revolutionizing the present classification, in spite of its faults. At any rate, very little could be accomplished in that direction by a long-drawn-out discussion. While suggestions might prove helpful, it was impossible to cover the entire ground in a night. The discussion should be academic rather than otherwise.

The President, Dr. WINFIELD, said that two years ago Dr. George H. Fox presented a paper on the terminology of syphilis, in which he made some valuable suggestions in connection with that subject. In the two years that had elapsed, nothing had been done regarding these suggestions. This present committee had been appointed for the purpose of unifying and simplifying the nomenclature of skin diseases, and the reason why this report was made the subject for general discussion, was the hope that some of their suggestions would be accepted at this meeting.

Dr. KNOWLES said that in looking over the various text-books that had been recently issued by members of this Association, he had failed to find any degree of uniformity as regarded classification in any two of them. As an initial step in this matter, he thought it would be wise for the Association to take up these various disputed terms, and try to arrive at a certain degree of uniformity in the classification of these diseases, basing it, if necessary, upon general ætiological factors, such as new growths, inflammation, etc. For example, those diseases of which we knew the cause could be classed under the general heading of vegetable organisms, which might possibly be divided into cocci, bacilli, spirilli and fungi. The speaker said he simply made these suggestions in the hope that this Committee would continue its work and help to rectify the nomenclature and classification of skin diseases, which now varied so widely.

Dr. HOWARD Fox thought that the names in our dermatological nomenclature should be as short as possible, not only for the convenience of dermatologists, but also for students. Wherever possible, only two or preferably one name should be used. The use of three names was decidedly objectionable. Dr. Fox objected to the particularly uneuphonious title of *dermatitis papillaris capillitii* and suggested as a substitute *folliculitis keloidalis*. The disease was primarily a folliculitis followed by the formation of keloids. The use of a generic name to describe favus, ringworm and other diseases was generally considered to be objectionable. All would agree, he thought, that favus was preferable to *tinea favosa*. If the name *chromophytosis* were used in place of *tinea versicolor*, he did not see why the single term *tinea* could not be used to designate ringworm and ringworm only. A name like *tinea trichophytina capitis* was not only very clumsy, but was not strictly correct as most cases of ringworm of the scalp in this country, at least, were due to a *microsporon* and not the *trichophyton*. For the same reason, *trichophytosis* was unsatisfactory. In addition to its simplicity, the name *tinea* was in frequent use in many of our dermatological clinics.

Dr. MONTGOMERY thought the name *tinea* was an example of the benefit of a descriptive designation. The Latin word *tinea*, the French *teigne*, meant a moth, and evidently referred to the peculiar gray appearance of the scalp in ringworm. These *tinea* patches resembled in color and appearance the gray, cottony moth nests found in moth-infested carpets and woolen goods. This gray, cottony look was of great importance as a symptom in ringworm of the scalp, and its presence or absence often determined the important question whether the patient shall or shall not remain segregated, and whether the treatment shall or shall not be continued. Also the search for specimens for microscopical examination was much facilitated by first looking over the scalp for these dull, gray, cottony patches.

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Dr. McEWEN thought the suggestion made by Dr. Pollitzer in regard to discarding the term *parapsoriasis* and substituting *parakeratosis* was an extremely good one. He did not think so well of the term *tuberculoidermata*, because it could be easily confused with *tuberculodermata*. Work along these lines, however, the speaker said, should not stop with these relatively rare conditions. Those who were especially concerned were the teachers and students of dermatology, and the latter were chiefly interested in the common skin affections, such as were covered by the terms *eczema* and *dermatitis*. Until a more uniform nomenclature was adopted by the writers of our text-books, with respect to common, as well as rare skin conditions, this question would be still open to debate. So long as one text-book followed one classification while a second followed another, there would be more or less confusion among students as to the names of certain skin affections.

Dr. SCHALEK said that during all the years that he had been teaching dermatology, he had found it most difficult to explain to the students that the names of certain skin affections did not mean what they apparently implied. For example, he had to explain to them that *eczema seborrhæicum* was not an *eczema*, that *acne rosacea* was not an *acne*, and *lupus erythematosus* not a *lupus*. He believed that if this Association, instead of trying to find new names for certain affections, would abolish some of the old names, they would be performing a great service.

Dr. MacKEE said that an additional objection to the term *tuberculoidermata*, proposed by Dr. Pollitzer, would be the necessity of determining what to include under that classification. Tubercle bacilli had been found in Bazin's disease, which would exclude that affection from the *tuberculoidermata*. Darier was convinced that *sarcoid* was an attenuated form of tuberculosis; if that proved well founded, it would exclude *sarcoid*, also, from the *tuberculoidermata*. Finally it was possible that some of the so-called *tuberculides* would be found to be due to attenuated forms of the tubercle bacilli, all of which went to show that we must be very cautious in adopting a name for these various skin affections which were still of doubtful ætiology.

Dr. PUSEY said that this discussion was a beautiful illustration of the melioring influence of scientific study and of the constant source of enjoyment it provides. It showed that until dermatological nomenclature became final, we will not have to resort to any game of cards to while away the tedium of our declining years. He did not mean to belittle the value of these discussions on nomenclature and classification; they were always useful and always carried us a little bit further on. He remembered, for example, to have carried away some new ideas and to have had some old ones clarified by Dr. Geo. Henry Fox's paper on the subject last year.

As to dermatological nomenclature in general, it, of course, contained many glaring defects; and it always must, until our knowledge became final and dermatology had ceased to be interesting. For language was but the means of expressing knowledge, and until our knowledge of dermatology became perfect, its language must remain imperfect and a ready target for criticism.

Personally he was not in sympathy with the attempts to eradicate old, well-established names and to replace them with descriptive titles suggestive of our present knowledge of the ætiology or pathology of the affections. Of course, *eczema* did not boil, *lupus* was not a wolf, and a syphilitic was not a swine-lover, and yet from usage these words conveyed very definite meanings to our minds. Usage made language, and it was because of the evolution of meaning of words that philology threw so much light upon the development of peoples. Let us not try to weed out of dermatological nomenclature all of its philological interest.

Technical objections could be urged against most descriptive names. Take the name of our beloved New York for illustration; what name could be less accurate? It was not York and it was not new. Dr. Pusey said he feared if

his purist friends were going over the geographical nomenclature of the United States they would suggest for it some such name as *Urbs cum via magna alba*; and yet he preferred the old name, with all its glaring inaccuracy.

We English-speaking dermatologists had no facility at naming diseases. If we used Latin or Greek the chances were more than ever that we would get it wrong, as witness the various dermias of our British relations or, if it were put in English, like White Spot Disease, we would so readily understand what was meant by the title that we would immediately fall to arguing upon its inappropriateness. As for the German names, they were too cumbersome and long drawn out, and so hard to remember that we only dared use them in the presence of the ignorant. But the French! ah! the French! There are a people that can make words that suit the scientific ear. In the first place they have a facility, almost Ethiopian, of inventing plausible words that sound as though they meant something, but didn't, like *acnitis* or *follicelis*; or if they refrained from exercising this faculty, they gave us words like *érythrodermie* *pityriasisque en plaques disséminées*, that ran trippingly on the tongue and were so easy to remember that they gave us an opportunity to air our French.

Seriously, much could be said for names which predicated nothing of the objects to which they were applied. But much could be said on all sides of nomenclature: that was one of the features that made it so interesting and so fruitful as a perennial topic.

DR. GEORGE HENRY FOX said that various opinions had been expressed by various speakers, but the time had come when we ought to do something. The function of a name was simply to designate a disease, not to describe it. While we could not hope for a perfect nomenclature, we could, perhaps, agree on a few names each year, which would tend to promote uniformity in their use.

DISCUSSION ON THE QUESTION OF LEPROSY.

BY THE MEMBERS AND GUESTS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION,
38th ANNUAL MEETING, Chicago, Ill., May 6-8, 1914.

The President, DR. WINFIELD, made this one of the topics of his opening address. He said that owing to the influx of people from those countries where leprosy was endemic, and the increased number of these cases in the United States, it seemed to him that this Association should join hands with other medical bodies in urging on the United States Government the necessity for a national law and the establishment of a national home or homes for lepers. He therefore suggested that a committee of this Association be created to draft a memorial to the President of the United States, the Senate and House of Representatives, setting forth the dangers of the leper at large and urging the need of his detention in a place under national control, where he could receive the proper care, and where scientific investigations could be carried on with a view to the relief of the unfortunate himself, the prevention of the further spread of the disease, and the eventual eradication of it from the world.

DR. J. O. COMB, of the United States Public Health Service (by invitation), said that while he was present as the representative of the department with which he was officially connected, the statements he would make in regard to the governmental supervision of lepers in this country expressed his personal views and should be so understood.

In connection with many diseases, and particularly so in connection with leprosy, the public mind was still living back in Bible times. This morbid dread

of leprosy and this trucking to the public fear of the disease was recently shown when a leper was sent from Chicago to New York in a closed car. Certain steps had already been taken by the United States Public Health authorities to exercise supervision over the lepers in this country and its island possessions. There was a leper settlement at Molokai, Hawaii, and there the disease was being studied from various standpoints, but the funds that had been allowed for this purpose were insufficient. Congress had not yet been awakened to the importance of this subject. Outside of the Philippines and the Hawaiian Islands, the need for the governmental supervision of lepers had not yet received the consideration it deserved. In the Philippines the government was dealing with the question by isolating lepers on Culion Island, but the medical officers were not doing the best they could, because they had not money enough at their command to control the matter as it should be. It was estimated that two per cent. of the native population of Hawaii was affected with leprosy. Some thought these figures were too high, others too low, and Dr. Cobb said that while he had no exact statistics to offer, he personally thought that the estimate of three per cent. was not too high among the natives in certain localities, and that the number of lepers both in the Hawaiian Islands and the Philippines was increasing, which fact he attributed to the inhuman method of treating lepers by isolation for life, which made them conceal cases. But once a leper entered a leper colony, he was happy. Here lepers played baseball, had their own bands of music, etc., and even non-lepers sometimes volunteered to enter such colonies.

How contagious was leprosy? It had been shown that in leper colonies less than five per cent. had contracted the disease even after long years of close association with the patients. Prolonged contact with lepers was apt to make persons careless, as was likely in the case of the late Father Damien and his assistant. Because of this small number of cases contracted by actual contact, was it right to condemn these patients to a living death by close confinement? We should protest against such an inhuman practice. New York, in exception to most of the other States of the Union, did not compel the isolation of lepers, which was, perhaps, going to the other extreme. We had twenty-two government hospitals situated at various sea-boards or inland waterways where these patients could be well taken care of without the slightest danger to the community. There was no reason why they should be sent away, even from Chicago. Why could they not be treated in the government hospitals? Perhaps the time was not ripe for this, but the American Dermatological Association, and other medical bodies, should stand up and assert that leprosy was not as contagious as most people believe. A widespread educational propaganda was necessary to impress this upon the public mind: that in this climate, at least, leprosy was not a highly contagious disease, and that lepers should not be sent to the world's end and segregated like cattle. That it would be perfectly safe to allow them to remain near their homes, under proper supervision. To accomplish this, the speaker said, he did not think a new law was necessary. The first thing to do was to educate the public that leprosy was not a highly contagious disease. Beyond this, perhaps, we should leave the question in the hands of the Surgeon-General, who was fully awake to its importance and who was doing everything in his power to settle the question upon a more humane and scientific basis.

Dr. McEWEN said that in the education of the public on this subject of leprosy, to the importance of which Dr. Cobb had called attention, it would be necessary to get hold of the newspapers. In the case already referred to, where a leper patient was recently transported to New York from Cook County Hospital, his presence in the hospital for several months had been known to the representatives of several of the newspapers, but no agitation was raised, as they had evidently been convinced by the proper authorities that leprosy was not such a terribly infectious disease as the general public believed it to be.

Dr. FOSTER said they had quite a number of lepers in Minnesota and he had

made an attempt to change the public attitude toward lepers by asking the University of Minnesota to establish a small leper farm, so that the lepers might be humanely cared for and at the same time an opportunity might be offered for the scientific study of the disease. When this proposition was submitted to the Regents, an unusually intelligent body of men, they said that while it might be true that leprosy was only slightly contagious, still the establishment of a leper farm in connection with the University would not be feasible, as it would immediately induce the parents of the students to send their children elsewhere.

Dr. Foster said he had had a leper under his observation for the past eight or nine years. He was a carpenter and able to continue at his work. With the exception of Dr. Foster and the proper health authorities, no one knew that the man was afflicted with leprosy.

Dr. ENGMAN said this subject of the treatment of lepers should be approached cautiously and studied from every standpoint. As a matter of fact, we knew little about the infectiousness of leprosy, and while the disease was not very broadcast at present, still cases cropped out here and there. From the various government reports, nothing very definite had been unearthed as to just how infectious leprosy was. In the meantime, we must realize that the general public was more or less frightened, and it was very difficult to handle the subject on account of this fear, which it would take years to overcome; while we could promise so little as to the non-infectiousness of leprosy, because we did not know. We could not say that it was a very infectious disease, nor could we say that it was not. The speaker said he saw two cases last summer; in one the period of incubation had been ten years, in the other twelve. One patient was a railroad brakeman; the other a soldier. The long period of incubation added to the uncertainties of the disease.

Dr. RAVOGLI said he had seen a case of leprosy at the City Hospital in a negro who had been a soldier in Cuba, and who for some years had been living there as a barber. The health authorities were informed of the case, but took no action. It was evident that what we needed was a uniform law in all the States, so that cases of leprosy could be reported and sent to a leprosarium.

Dr. SCHAMBERG said he was in entire accord with Dr. McEwen as to the importance of instructing the public on this subject. The inhumanity frequently exhibited toward lepers was due to ignorance and was goaded on by public opinion. The medical profession must educate the public concerning the feeble contagiousness of leprosy, and the American Dermatological Association must educate the profession. There were many diseases, Dr. Schamberg said, that were far more dangerous than leprosy, and still, no such hysterical fear existed in regard to them. While lepers should not be allowed to live free in the community, they should be accorded a larger measure of freedom than they were given at present.

Dr. MONTGOMERY said the idea of denouncing a leper was very painful, indeed, and altogether repugnant to what should be the attitude of a doctor to his patient. A patient comes to a physician seeking help, and instead of receiving help to be denounced as a leper and therefore to suffer through the person of the physician, one of the most extreme disasters that can befall a human being, did not accord with the compassionate attitude of our profession. Many lepers, such as those suffering only from neural leprosy, were not at all dangerous as regards transmitting the disease. Even those suffering from nodular leprosy with nasal involvement were only slightly contagious when living under modern conditions. Armauer Hansen's dictum that the segregation and cleanliness entailed in modern civilized life was a sufficient prophylaxis against leprosy, was true.

Dr. CORLETT said he was surprised to hear the estimate made by Dr. Cobb that from two to three per cent. of the native population of Hawaii was affected with leprosy. A few years ago, while visiting the leper hospital at Port of Spain, in Trinidad, he was told by the Sister Superior, who had lived in the Leper Hospital 35 years, that to her knowledge not a single case had developed from exposure in the hospital under what seemed to him to be the worst possible hygienic condi-

tions. She further said that several of the sisters who nursed in the hospital had been there nearly as long—a quarter of a century and more.

Dr. Corlett said there was, some years ago, a small leper colony near Columbus, Ohio, where at the time of his visit a shot-gun quarantine was maintained. The last leper admitted into the State of Ohio, so far as he knew, came from Buffalo about a year ago, and after the usual hysterical uproar on the part of the press and others who really knew better, he was transported to the land from which he came, Syria.

In addition to the education of the press and the public he thought an effort should be made to discountenance the notoriety-seeking tendencies of some of the local health officers.

Dr. GRINDON said that the American Dermatological Association, perhaps more than any other body, should clearly put itself on record in regard to this subject, and with that purpose in view he offered the following Resolution, which was referred to the Committee on Leprosy:

Resolved, That the American Dermatological Association declares that leprosy is communicable only by prolonged actual contact; that a leper is not dangerous when actual contact with the healthy is avoided, and that inhuman treatment of lepers based on the notion of infection through the air is unscientific, irrational and wholly unnecessary.

SOCIETY TRANSACTIONS.

CASES PRESENTED AT THE CLINICAL SESSIONS OF THE AMERICAN DERMATOLOGICAL ASSOCIATION, 38th ANNUAL MEETING, HELD IN CHICAGO, AT THE PRESBYTERIAN HOSPITAL, MAY 14, 15 AND 16, 1914. ALSO A TALK ON THE SUBJECT OF THE ETIOLOGY OF ERYTHEMA NODOSUM BY DR. E. C. ROSENOW.

MYCOSIS FUNGOIDES. Presented by Dr. ZEISLER.

The patient was a man, 45 years old. He presented erythematous, somewhat scaly patches, with infiltration in a few of them, together with intense pruritus. There was marked glandular enlargement in the cervical, axillary and inguinal regions.

DISCUSSION.

Dr. PUSEY said he was unable to understand the significance of the follicular erythema over the whole body and the intense hyperæmia on the face.

Dr. ZEISLER replied that it was probably due to the X-ray treatment.

Dr. CORLETT said he was inclined to agree with the diagnosis. The speaker said he had under his observation a case of mycosis fungoides of two years' standing in which salvarsan was administered as an experiment. The dose was 0.4 gm., repeated a week later. At first the treatment seemed to aggravate the lesions, but after the second dose there was a remarkable improvement, both visually and subjectively. The third dose had been given just before he left home.

Dr. ORMSBY recalled a case which for several years had been regarded as parapsoriasis and which subsequently developed into mycosis fungoides.

URTICARIA PERSTANS XANTHELASMOIDEA. Presented by DR. PUSEY.

The patient was a man, aged 33 years. He was afflicted with a very abundant eruption of yellowish, oval to round, wheat-grain-size papules, almost but not entirely confluent in some locations. The lesions appeared over the trunk, extremities and head. The face was relatively free. The lesions became wheals on friction. There was very slight itching. The patient had syphilis in 1905. The eruption for which he was presented began in 1907, and spread to the extent shown, in four years. It remained unchanged for the last two years, some lesions disappearing and new ones developing.

Two years ago he had two intravenous salvarsan injections without any effect on the eruption. He was a vigorous man, without significant facts in his physical history. His urine was normal in repeated examinations, and the blood was normal. The Wassermann had been negative since he was under the speaker's observation.

DISCUSSION.

DR. ZEISLER, who had seen the patient on a previous occasion, thought that syphilis could be excluded. He would make a tentative diagnosis of generalized xanthoma. Urticaria, he thought, could also be ruled out, as the urticarial lesions never showed such a nodular appearance.

DR. HARTZELL said he could recall one or two cases similar to this one, and while the lesions were urticarial in character, it was not urticaria. That was a distinct disease by itself, and while this man's skin showed the urticarial reaction, it did not follow that the case belonged to that class. The speaker said he had an impression that this condition had been described by Tilbury Fox.

DR. PUSEY, in closing, said that of course the case was not an urticaria in the ordinary sense, nor was it an urticaria pigmentosa. It was an example of a type of cases that we occasionally saw, and if the occurrence of wheals was an indication of urticaria, it belonged to that group. These cases ranged all the way from the papular type of urticaria in children, of very transient character, to this sort of chronic eruption, and he knew of no better classification for it than that of persistent urticaria with organized lesions.

CHEILITIS. Presented by DR. PUSEY.

The patient was a woman, aged 45 years. Her lower lip was red, sclerotic, covered with greasy scales. The process was confined to the vermilion border. There was no evidence of lupus erythematosus or seborrhœic eczema elsewhere. The duration, with slight intermissions, had been 20 years.

DISCUSSION.

DR. ENGMAN thought the case was one of lupus erythematosus of the lip.

DR. PUSEY, in closing, said he did not think it was a case of lupus erythematosus because it had been sharply confined for many years to the vermilion border of the lip. The case was of many years' duration and there had been no lesions anywhere else on the body.

DERMATITIS REPENS. Presented by DR. PUSEY.

The patient was a farmer, aged 23 years. He had a red, dry, scaly area of chronic dermatitis on the right palm, between the thumb and index finger, and extending on to the wrist. The centre was dark red, covered by thin, stiff epidermis. The border was sharp and polycyclic, with undermining of the edge of the healthy horny epidermis.

The uninvolved skin of the hand and wrist was thin, pale and atrophic, which was attributed to disuse and the wearing of a glove. There was slight

itching, but no anaesthesia or hyperaesthesia. The disease began 13 years ago as dry, red patches which became confluent. There never, the patient stated, had been a moist surface. The lesions had been almost cleaned up a few times, by treatment, but had always recurred in a month or two. It was resistant to specific treatment and the Wassermann test has been persistently negative.

DISCUSSION.

DR. WENDE suggested dermatitis repens, and in doing so said that he appreciated that there was in the present appearance nothing in common with, or characteristic of typical dermatitis repens, which spread peripherally and manifested itself by vesicles, bulla and oozing surfaces; but that the case corresponded to a dry form mentioned by Crocker, which presented dry, inflammatory patches that spread peripherally and that did not at any time in their course show any form of exudation upon the surface.

DR. POLLITZER called attention to the dryness of the patch and thought that dermatitis repens could be excluded. Instead, he would suggest the possibility of a lupus erythematosus of the palms.

DR. SCHALEK thought the dermatitis was a secondary process.

DR. ZEISLER thought it was possibly a case of intensified keratosis palmaris.

DR. PUSEY, in closing, thought the case to be dermatitis repens. The man accounted for the atrophy of the hand by the disuse of it. He was a farmer by occupation, and for twelve years had practically made no use of this hand.

ERYTHEMA PERSTANS. Presented by DR. PUSEY.

DR. S., aged 50 years, presented gyrate, erythematous patches, with pink, slightly elevated borders and paler centres, on the thighs and lower part of the trunk. The disease had been persistent for years. At times the lesions almost disappeared. There was no itching.

SCAR OF EPITHELIOMA TREATED WITH X-RAYS IN 1901. RESULT OF TREATMENT. Presented by DR. PUSEY.

MR. M. presented a squamous cell epithelioma of the nose, treated with X-rays in May, 1901. The case was shown to demonstrate the favorable outcome.

CASE FOR DIAGNOSIS. Presented by DR. PUSEY.

The patient was a young man, a resident of Porto Rico. His eruption consisted of pigmented, sharply defined, round, scaly macules and small patches on the face, neck, hands and forearms. It appeared last summer after much exposure to the sun in Porto Rico, and had persisted since. No fungus was found in the scrapings.

CASE FOR DIAGNOSIS. PSORIASIS (?). Presented by DR. PUSEY.

MISS D., aged 28 years, showed a persistent scaly eruption on the scalp, consisting of circumscribed, scaly inflammatory patches, like psoriasis or seborrhœic eczema. The lesion was completely resistant for years to the most painstaking treatment for seborrhœic eczema or psoriasis. The disease was confined to the scalp.

CASE FOR DIAGNOSIS. PSORIASIS (?). Presented by DR. PUSEY.

MR. X., aged 35 years, presented a persistent scaly eruption on the scalp, which consisted of circumscribed, scaly inflammatory patches, like psoriasis or seborrhœic eczema. The lesion was completely resistant for years to the most painstaking treatment for seborrhœic eczema or psoriasis. The disease was confined to the scalp.

MULTIPLE EPITHELIOMATA. Presented by Dr. PUSEY.

The patient was a man, aged 40 years. He presented multiple superficial epitheliomata on the trunk and limbs, which apparently began as seborrhœic patches. Some were treated with X-rays, most of them with CO₂ snow.

RECURRENT CARCINOMA OF BREAST TREATED WITH X-RAYS.

Presented by Dr. PUSEY.

Condition, Mar. 1, 1911: The patient presented innumerable carcinoma nodules in the skin and subcutaneous tissue of the chest wall. Mass of glands in supraclavicular space. Indurated mass in axilla. The arm was œdematous. The case was inoperable according to good surgical opinion. Growth was rapid. May 1, 1911, all palpable lesions were gone. The lesion has remained in that condition for 3 years, except for the occasional development of a small nodule in the skin, which disappeared under X-rays.

NÆVUS. RESULT OF TREATMENT. Presented by Dr. PUSEY.

Miss O. presented a large, dark red, vascular nævus of the face, treated with CO₂ snow and X-rays, and was exhibited to show the result of these forms of therapy.

NÆVUS. RESULT OF TREATMENT. Presented by Dr. PUSEY.

Miss M. presented a portwine mark over the temple, treated with X-rays in 1911.

ATTACKS OF LUPUS ERYTHEMATOSUS (?) FOLLOWING EXPOSURE TO SUNLIGHT OR OTHER WEATHER FACTORS. Presented by Dr. PUSEY.

Mrs. X., a private patient, aged 28 years, appeared in August, 1913, with sharply defined, scaly, erythematous patches over the bridge of the nose and the cheeks and chin, of a few weeks' duration. The speaker made a diagnosis of superficial erythematous lupus. The history was definite that the eruption had immediately followed exposure while playing golf. Under palliative treatment little improvement was noted, until the patient began to avoid exposure to light. Then the eruption entirely disappeared. On taking up golf again, it returned. During the winter it entirely disappeared. It had just recurred, after two days at golf.

IDIOPATHIC ATROPHY OF SKIN WITH PARÆSTHESIA. Presented by Dr. PUSEY.

The patient was a retired farmer, aged 65 years. He presented an atrophy of the skin of the hands, forearms and feet. The skin on the backs of the hands was thin, papery and loose. The palms were thin and soft. The same condition was less marked on the feet.

The patient was first seen 18 months ago, when he found the skin of his palms becoming so thin that he could not do manual work, and his feet became tender. A sensation of burning was a constant source of discomfort, and was localized on the palms, soles, backs of the legs and around the ankles. The patient had never used cocaine, morphine, tobacco, or other narcotics. There was a free use of alcohol 18 years ago. He had never had syphilis, the Wassermann test being negative. He had arterio-sclerosis, manifested by severe attacks of dizziness at times. The tactile and thermal sensations were dulled on the palms and soles, so that there was some feeling of awkwardness in walking, and difficulty in standing with closed eyes. The knee reflexes were exaggerated.

BLASTOMYCOSIS ON CHEEK AND NECK. Presented by Dr. PUSEY.

The patient was a man, aged 40 years, a salesman. The disease began, he thought, in a barber's cut, 2½ years ago. The lesions had almost healed with X-rays, without potassium iodide.

EPITHELIOMA TREATED WITH X-RAYS. Presented by Dr. PUSEY.

The patient was a man, aged 45 years. He presented an epithelioma covering the entire temple, symptomatically cured with X-rays for one year.

MULTIPLE BENIGN CYSTIC EPITHELIOMA WITH DESTRUCTIVE EPITHELIOMA OF THE NOSE. Presented by Dr. PUSEY.

The patient presented sago-grain-size, translucent tumors of the face, particularly around the eyes, since early womanhood. The epithelioma of the nose began several years ago.

GRANULOMA PYOGENICUM. Presented by Dr. PUSEY.

The patient, a child, aged 6 years, presented a pyogenic granuloma, situated in a flat vascular nævus, single, the size of a large pea.

CASE FOR DIAGNOSIS. LEPROA (?). Presented by Dr. ORMSBY.

The patient was aged 36 years. The duration of the disease (Aug. 27, 1912) was one and one-half years. The disorder began with a burning sensation in the palm of the left hand and gradual weakness of the muscles in the same area. Later, redness and thickening of the skin of the same region occurred, with loss of sensation of heat and cold. Six months later the skin on the flexor surface of the right forearm became numb, and several lesions appeared. These were brownish-red, superficial, and presented the appearance of a superficial lupus vulgaris. Still later, lesions appeared on the arms, a few on the back, legs, feet and face. The lesions on the forehead were red or bluish-red in color, elevated, about dime-sized, and had been present 4 months; those on the trunk were large, oval in shape, brownish-red in color, with a clear centre. Sensation was not disturbed. On the left wrist a linear band, ½ inch wide and 4 inches long, was present with the sinus above mentioned.

The Wassermann reaction, repeatedly performed, had been negative; von Pirquet's tuberculin test was negative; tuberculin test by injection at the hospital was also negative.

Tissue inoculated into guinea-pigs produced no lesions. Other bits of tissue dissolved in antiformin showed no acid-fast bacilli of any sort. Sections of tissue stained, revealed no Hansen's or other bacilli.

Treatment with chaulmoogra oil and radiotherapy largely removed the lesions from the forehead and improved the lesions on the left forearm and hand. During the entire progress of the disorder bullæ constantly formed on the fingers of the affected side.

The asymmetry of the lesions, the palmar involvement, and the complete inability to demonstrate Hansen's bacillus were the interesting features in this case.

DISCUSSION.

DR. MONTGOMERY said that from the character of the erythema, the ulnar nerve enlargement, the anæsthesia and the dissociation of sensations he was inclined to regard the case as one of anæsthetic leprosy.

DR. FORDYCE said he was inclined to agree with Dr. Montgomery. The case reminded him of one that recently came under his observation, a woman from Central America, with widely distributed areas of anæsthesia. On account of

the dissociation of the various sensations, the neurologists made a diagnosis of syringomyelia. A section of tissue was removed from a faintly defined lesion, and after a long search, the lepra bacillus was found in the macular area.

SARCOID. Presented by DR. ORMSBY.

The patient was aged 46 years; the duration of the disorder was three years. Twenty-one years previously, the patient was seen and treated by Dr. Hyde, the diagnosis at that time being lupus erythematosus. Those lesions occupied regions in the scalp and about the ears. The present nodular trouble began three years ago with deeply situated lesions involving the entire skin. These would gradually undergo involution, leaving atrophy and scar-formation.

On both cheeks, beneath the eyes and extending toward the ears, were areas of atrophy and scar formation and nodules and plaques. The latter varied in size up to that of a walnut, were bluish-red in color, involved the entire skin, extending into the subcutaneous tissue, and were removable only with the skin. No subjective symptoms were present. The Wassermann reaction was negative; tuberculin tests were also negative. Under arsenic the lesions had improved, but new ones appeared.

DISCUSSION.

DR. ARNDT (by invitation) thought the case belonged either to the nodular type of lupus erythematosus or to the so-called sarcoids. He did not care to venture a positive diagnosis without the microscope.

DR. HOWARD FOX said the case bore much similarity to the condition he had described before this Association under the diagnosis of the sarcoid of Boeck. In that case, there was the same depression of the cheeks, which he thought at first was due to the Finsen treatment, but which he afterwards was assured by physicians in Copenhagen was due to the disease itself.

PARAPSORIASIS (TYPE ERYTHRODERMIE PITYRIASIQUE EN PLAQUES DISSEMINÉES). Presented by DR. ORMSBY.

J. B. K., aged 32 years. Record made Dec. 12, 1912. The duration of the skin disease was 9 years; he had amœbic dysentery 10 years. The cutaneous disorder began with a circular reddened area, the size of a silver dollar, on the right leg, above the ankle; there was moderate scaling; no subjective symptoms. This area gradually grew and new ones appeared. At the time of the examination, the arms, forearms, thighs and legs were involved. The patches were erythematous, reddish, well defined and scale-covered. The scaling varied, being in some places hardly perceptible, in others quite evident.

X-rays were used during the year 1913 without benefit. In January, 1913, a Wassermann was negative. In January, 1914, the lesions were unchanged. During February, two injections of salvarsan were given for his dysentery, which entirely removed the cutaneous lesions, but had no effect upon the dysentery.

DISCUSSION.

DR. POLLITZER said he had heard of a case of erythrodermia pityriasique en plaques disséminées in a young man in which the lesions disappeared under the use of salvarsan. The diagnosis in these cases was not always easy, and they sometimes were indistinguishable from mycosis fungoides.

PARAPSORIASIS (TYPE PITYRIASIS LICHENOIDES CHRONICA [JULIUSBERG]). Presented by DR. ORMSBY.

Patient, aged 30 years. Duration of disease, 14 years. The lesions began on the chest and gradually spread. No subjective symptoms were present.

The early lesion was a small, slightly elevated, red papule, scale-covered,

and devoid of subjective sensations. Later, as the lesion became older, it became darker, and patches formed. In spite of different methods of treatment, including radiotherapy, little appreciable change had been made in the condition.

The lesions were distributed over the chest, abdomen, back, arms, forearms and lower limbs. They consisted of scale-covered papules and scaling patches; the papules varying in size from a pin's head to a split pea, the patches from somewhat larger than a split pea to dime-sized. They were well defined in outline, and were dark-red and brownish-red in color; the older lesions exhibiting a much darker discoloration, the newer papules being reddish and scale-covered. The scales were adherent and not imbricated. Practically no lesions had undergone involution during the entire period, but new ones had gradually appeared.

PARAPSORIASIS (TYPE PITYRIASIS LICHENOIDES CRONICA [JULIUSBERG]). Presented by Dr. ORMSBY.

Patient, aged 28 years. Duration of disease, 12 years. Lesions began first on abdomen, later appeared over most of the body.

The lesions occupied the trunk and extremities and were symmetrically disposed. They occurred in patches and were from split-pea to silver-dollar in size. The patches were irregular, dull-red and brownish-red in color, and were scale-covered. The scales were dry and not imbricated. On the trunk the patches were brownish from increased pigment. There were no lesions between the shoulders or over the sternum. There were some well-defined scaling papules scattered among the patches. The forearms were less involved, a few lesions were seen on the ulnar surface; the thighs and legs were markedly involved. The scalp showed pityriasis steatoides; the face was free. The subjective sensations were practically *nil*.

SUPERFICIAL EPITHELIOMATOSIS (PAGET'S). Presented by Dr. ORMSBY.

J. P. P., aged 57 years, presented superficial epitheliomatosis resembling Paget's disease. Duration of disease, 13 years. The first lesion appeared on the back, as a pinhead-sized spot, which spread peripherally, and later new lesions occurred on the areas presented.

Beginning Aug. 20, 1913, X-rays were used on the larger patches, and carbon-dioxide snow on the smaller ones. In the latter areas a keloid formation had since developed.

(Aug. 25, 1913.) About twelve patches were present, varying in size from that of a dime to several inches in diameter. These were bluish-red in color, scale-covered, and had a raised, well-defined margin, suggesting a pearly border. In the centre of some lesions distinct atrophy was present. Marked itching was complained of in all the areas.

ALOPECIA AREATA TOTALIS. Presented by Dr. ORMSBY.

Patient, aged 23 years. Duration of disease, 2 years. In the beginning, there was one area on the scalp. New ones continued to occur, until in the course of 4 months all of the hairs of the body had fallen.

The patient's general health was good. Hæmoglobin, 86 per cent. Wassermann reaction, + + positive. Otherwise normal in every respect.

MORPHŒA GUTTATA. Presented by Dr. ORMSBY.

Patient, aged 27 years. Duration of disease, 3 years. The disease began on the shoulder as a white area, the size of a fifty-cent piece, and gradually spread. Shortly afterward, a brown streak, 3 inches wide, occurred, extending over the

middle of the forearm to the spinal column. A year and a half after the onset of the disease, white lesions began to occur on the arms.

The lesions were located on the forearms, on both surfaces, most markedly on the extensor; over the shoulders, and some on the back. They varied in size from pinhead and smaller to larger than a split-pea; were level with the skin; were dead-white or bluish-white in color; no plugs; occasionally a follicular opening. The lesions were arranged in groups and sometimes in lines. There was present some atrophy, with depression and wrinkling, and some pigmentation in streaks. Some of the patches were surrounded by pigmentation. There were no subjective symptoms.

MORPHŒA GUTTATA. Presented by DR. ORMSBY.

The patient was a young woman, aged 25 years. Duration of disorder, 2 years. The lesions occupied the region of the shoulder on the right side, extending from the middle of the clavicle over the point of the shoulder and down the arm for a distance of 6 inches, being distributed more extensively on the anterior than on the posterior surface. The lesions were dead-white spots, which in some places simulated papules, and were arranged both singly and in groups. In many places linear streaks were present. The area was surrounded by pigment, and a rather broad streak of pigmentation with violet coloration extended down the arm below the white areas. The general condition of the patient was normal; the Wassermann reaction was negative, and the urine was normal.

CICATRICAL ALOPECIA. Presented by DR. ORMSBY.

L. K., aged 38 years. Duration of disease, 25 years. Whether the present condition was preceded by inflammatory changes was difficult to determine. It seemed probable that some crusted areas occurred in childhood. Recently new areas had appeared without definite inflammatory reaction, and the cicatricial areas of alopecia had thus been produced.

ATROPHIA PILORUM. Presented by DR. ORMSBY.

J. M. H., aged 39 years. The alopecia was partial, from rubbing (?). Duration of disease, 1 year. First symptom was itching. Later broken stumps of hair in a circumscribed area appeared. On first examination, in February, 1913, the area was the size of a silver half-dollar, the hair on which was dry, atrophic and roughly broken, as though the surface had been shaven one week previously. There was some thickening of the scalp, but no other changes.

Much treatment was given during the year, with no perceptible improvement.

SCLERODERMA BEGINNING WITH RAYNAUD'S SYMPTOMS. Presented by DR. ORMSBY.

Patient, aged 47 years. Duration of disease, over 20 years. Aside from an attack of peritonitis, the patient was well until the present trouble began. Twenty-two years ago the face became covered with scales, the scaling lasting for five years. At the end of this time purple spots began to appear on the face, varying in size from that of a pinhead to a split-pea. These occurred in successive crops. No subjective symptoms were present. Coincident with the lesions on the face, firm, deep nodules appeared on the extensor surfaces of the forearms, near the elbows. One of these opened spontaneously and a thick, whitish material escaped. Similar lesions occurred on the knees. The hands and feet were habitually cold. The patient stated that at times the fingers were perfectly white and at other times bluish. Cold weather caused extreme suffering. The entire condition had gradually been growing worse for 12 years. The Wassermann reaction was negative.

On the face, forehead, ears, and neck were numerous teleangiectatic areas, also in the scalp, pea- and coffee-bean-sized, bluish-red in color. More or less keratosis on the ears. On the elbows and forearms, three or four calcareous nodules, with pigmented covering; skin of forearm otherwise normal. On the hands, small teleangiectases of the palmar surface; several localized keratoses. On the right hand, two superficial ulcers, with crusts, on the dorsal surface of the index and middle finger; on the left hand, one on the middle finger. Fingers somewhat flexed.

On the anterior surface of the left leg, a band, two inches wide, of sclerodermatous tissue; calcareous nodule at knee. Œdema of entire limb; dilated veins in foot. Cyanosis. Ulcer, size of silver quarter, above internal malleolus. Some keratoses on bottom of foot.

One teleangiectatic area on tongue. Vermilion border of lips showed the same vascular changes.

Skin yellowish. Marked sclerodactylia. Sensation impaired.

RAYNAUD'S DISEASE, ACCOMPANIED BY PALMAR TELEANGIECTASIA. Presented by DR. ORMSBY.

This patient was presented before the Chicago Dermatological Society, Feb. 15, 1910. At that time the fingers on the right hand were thickened; the distal phalanges were shrunken and distorted, presenting several areas covered with black eschars. The thumb and index finger were most markedly involved. The left hand showed some distortion, no active lesions; the right foot, several scaling areas; the great toe was purple and cold. Duration of disease, 10 years.

At the time of presentation the ulcers had healed and the general condition of the patient was much improved. The fingers were deformed, but the improvement here was also marked. The palms in this case were the seat of numerous teleangiectatic vessels.

VON RECKLINGHAUSEN'S DISEASE. Presented by DR. ORMSBY.

Patient, aged 42 years. Duration of disease, 23 years. A generalized, extensive case, presenting practically all tumor-formations described in this disorder, as well as variously sized areas of pigmentation.

KELOID, MULTIPLE AND EXTENSIVE. Presented by DR. ORMSBY.

Patient, aged 29 years. Duration of disorder, 14 years. First lesion occurred in a vaccination scar; others gradually followed.

Large and small keloids were present on the sides of the face, forearms, trunk, thighs and legs. They were of the proportions usually seen in the colored race. Radiotherapy improved the lesions on the face.

XANTHOMA TUBEROSUM MULTIPLEX. Presented by DR. ORMSBY.

Patient, aged 26 years. Duration of disease, 10 years. The lesions began over the kneecaps.

The lesions were located on the palms and dorsal surface of the hands, particularly over the joints, and over the knees, ankles, soles, and joints of the feet; a large number also over the hips and buttocks. The individual lesions were from pinhead- to dime-sized and larger. In places, definite tumor-formation was present and large infiltrated plaques.

Urinary examination showed nothing abnormal.

XANTHELASMA. Presented by DR. ORMSBY.

An extensive case, involving the usual eyelid region. Presented for suggestions for therapy.

ACNE VULGARIS WITH DOUBLE COMEDONES. Presented by Dr. ORMSBY.

R. D., aged 25 years. Duration of disease, 8 years. The lesions were situated chiefly over the shoulders, sides of the neck and sides of the face, and on account of the bridges of connective tissue having been destroyed, huge scars were produced.

XERODERMA PIGMENTOSUM; FAMILY GROUP. Presented by Dr. GRINDON.

The family resided in a small town in southeast Missouri. The father was German-American, the mother American. Nothing of note among ascendants on either side.

The group consisted of the mother (free), a boy of 9 years (affected), a girl of 4 years (affected), and a boy of 6 months (so far free). There was also a boy of 7 years (free and not presented). There had been no other children, and no miscarriages.

The mother was a particularly robust and healthy-looking young woman without skin lesions, save a remarkably heavy crop of freckles about the face, neck and arms. They were all deep in color, some being almost black. These she had had from childhood. They faded only slightly in winter.

The father was said to have always enjoyed good health, and to be free from any skin trouble.

The mother stated that her sister, some years since, while affected with malaria, developed a number of dark freckles which disappeared soon after her recovery, and had not since returned.

Boy, aged 9 years. The mother said that this child seemed quite normal at birth and until the age of 14 months. He was weaned at 18 months. He had had some indigestion at times, and was subject to nocturnal urinary incontinence. At 14 months he developed a dermatitis about the face, neck, hands and arms, which was attributed to contact with some weed. A few days before, however, he had taken a long ride in an open wagon, exposed to the rays of the sun. Soon after he began to freckle. This increased, and at about 4½ years there appeared scaly and warty growths about the lips, cheeks and nose. The scaly masses would grow a quarter inch or so above the surface, take on a dark color, and eventually drop off, leaving no permanent scar.

The lesions shown on presentation consisted, first, of freckles. They were very numerous on the face and neck, extending thickly over the upper part of the body, growing more sparse below the waist. Most of them were of a deep brown color, while some were coal-black. Second, thinned, atrophic areas, more or less leucodermic, presenting a quasi-cicatricial aspect. Third, teleangiectases, occurring within the atrophic areas. Warty growths about the face, some of them possibly commencing epitheliomata.

The girl of 4 years was fat and more robust than her brother, but was heavily freckled over uncovered parts, covered surfaces not being quite free. The lesions were deep-colored and in places black. Commencing atrophic changes could be made out at certain points.

DISCUSSION.

DR. BRAYTON said that so far as he knew, xeroderma pigmentosum had no relationship to any known cause. The second case shown by Dr. Grindon, the small boy, was similar in its progress to the case that had been under his observation almost from the time of the patient's birth. This patient was 20 years old and was nearing a fatal termination. She had been carefully shielded from the sun's rays practically since birth. The cases presented by Dr. Grindon and the history he gave of them tended to show that xeroderma pigmentosum

was or may be very variable in its course of development in various members of the same family.

DR. CARMICHAEL said he showed two cases of this disease at the meeting in Washington four years ago. In one of them, a child four years of age, the disease was steadily progressing. The other patient, then a boy of five, died about two years ago.

DR. SCHAMBERG said that at the meeting of this Association in Philadelphia, several years ago, he showed two cases of xeroderma pigmentosum in brothers. He understood that one or both of those patients had since died.

DR. CHARLES J. WHITE said it was rather unusual that one of these patients was a boy, the other a girl, for, as a rule, either the girls in the family were affected or the boys—not both.

DR. CORLETT suggested that the actinic rays should be excluded from these patients as far as possible. Finsen had very strong ideas on this subject, and as he, the speaker, last summer passed the New Hospital erected to carry on Finsen's work in Copenhagen, it was noticed that the curtains covering the windows were red in color.

DR. MONTGOMERY mentioned the case of an English army officer in the Tropics who was very sensitive to the sun's rays, and as a protection against them wore orange-colored underwear and a hat lining of the same color. Without these, he claimed that he suffered very much.

DR. GRINDON, in closing, said that orange-colored underwear had been tried by the American army in the Philippines, and it did not seem to protect them from the effect of the sun's rays. What they had thought of in St. Louis was something in the way of negative phototherapy. This boy had been at the Skin and Cancer Hospital for some weeks, and he had shown considerable improvement.

UNUSUAL CASE OF LICHEN PLANUS. Presented by DR. LIEBERTHAL. (by invitation).

The patient was a Russian; married; 63 years of age. There was no history of syphilis or skin disease previous to this. Family history also negative in both respects. Present illness: Two years ago, burning sensation over both shins, which was relieved by treatment. Six months later, recurrence. Pea-sized vesicles appeared. Itching then became quite intensive; vesicles were scratched and infected. "Pimples" then developed and itching subsided considerably. The patient was admitted to the hospital, complaining about pain in the legs. Examination: Lungs slightly emphysematous. Bilateral inguinal hernia. Reduced hæmoglobin content. Urine alkaline, containing a few leucocytes, epithelia and erythrocytes. No casts. Otherwise negative. Skin rather dark. Lesions found on legs and mucosa only. Over the tibia, from knees to ankles, a densely set eruption, enveloping the leg, consisting of pigmented and slightly scaly convex nodules, interspersed with angular flat ones. Here and there, anteriorly, within affected area, was seen a pustule. On the right buccal mucosa were seen a number of small, dull white spots, with irregular outlines. Under wet dressings the pustules healed. He was first demonstrated before the Chicago Dermatological Society about nine months ago. Thereafter, Fowler's solution internally was given; locally, 4% chrysarobin ointment. At the second demonstration, two months later, the left leg was nearly healed, the right one greatly improved. Patient was not seen for about six months and treatment was not taken.

DISCUSSION.

DR. KNOWLES thought the case was one of lichen miliariformis.

DR. PUSEY agreed with the diagnosis of lichen planus and thought the case was unique in character.

Dr. SCHAMBERG thought the case belonged in the same class as the case published by Dr. Charles J. White under the title of lichen obtusus, and by Dr. Hirschler and himself as multiple tumors of the skin, or as the late Dr. Hyde termed the affection, prurigo nodularis. The microscopic appearances were quite suggestive of the cases that had come under the speaker's observation.

Dr. CHARLES J. WHITE said it was very difficult to classify definitely these rare affections. Certainly he would not place this case in the same group that he had described under the name of lichen obtusus corneus.

Dr. ZEISLER said that while he did not care to venture a positive diagnosis, he did not regard it as an example of urticaria perstans, nor did he think it belonged in the same class as the cases described by Dr. Schamberg.

Dr. ARNDT thought it was a rare form of a neuro-dermatitis.

Dr. GEORGE HENRY FOX said he had two photographs of cases exactly similar to the one shown by Dr. Lieberthal, and in both of his cases the diagnosis was lichen planus hypertrophicus. The lesions, which were about the size of split marbles, were extremely itchy.

Dr. LIEBERTHAL, in closing the discussion, said that the difference of opinion about the specimens exhibited may be explained by the fact that at various stages, various pictures were presented. In a lichen nodule of recent development we found dilated blood and lymph vessels and lymph spaces; dense cellular infiltration of the papillæ and the subpapillary stratum, ceasing abruptly at the latter, and slight infiltration following the blood vessels downward; the epidermis was thickened; there was slight hyperkeratosis, and inter- and intracellular œdema of the rete. The lesions of this case presented a late stage in which retrogressive changes had taken place. The blood vessels were contracted. The cellular infiltration was scanty and yet limited to the upper part of the corium; and the collagenous substance was sclerosed. The epidermis was thinned, although the hyperkeratosis was increased, with horny plugs dipping down into follicles and independent of these.

In the early stage of the case, itching was severe, but ceased later altogether. Arsenic was quite effective and would have undoubtedly brought about a cure had it been possible to control its administration.

ANGIOMA OF THE FACE REMOVED WITH RADIUM. Presented by

Dr. SIMPSON (by invitation).

In a girl, aged 21 years, an angioma had existed on the left side of the face, extending from the lower eyelid to the angle of the mouth and covering about 16 square centimetres of surface. The angioma was of purplish-red color, irregularly elevated and deeply infiltrated. Under radium, removal was successfully accomplished with a good cosmetic result.

LUPUS ERYTHEMATOSUS TREATED WITH RADIUM. Presented by

Dr. SIMPSON (by invitation).

In a woman, aged 50 years, lupus erythematosus of the right cheek and upper lip had been present for eight years. Under radium, involution of the diseased areas was brought about with a good cosmetic result.

LYMPHANGIECTODES AND HEMANGIOMA. Presented by Dr. SIMPSON (by invitation).

In a girl, aged 20 years, a new growth affecting the right buttock and upper portion of the right thigh on its inner aspect had existed since infancy. It was composed of a cauliflower-like mass, the size of the palm of the hand, with numerous adjacent groups of warty vesicular lesions. On puncture, a straw-col-

ored fluid issued from the vesicles, the flow persisting at times for hours. In addition, an angioma of irregular shape was adjacent to, and in places associated with, the vesicular lesions. The case was presented as one of lymphangiectodes (Crocker) and hæmangioma.

DISCUSSION.

DRS. ZEISLER and GEORGE H. FOX complimented Dr. Simpson on the excellent result of the treatment in these cases.

ADDISON'S DISEASE. Presented by DR. E. P. ZEISLER (by invitation).

The patient, a man aged 50 years, showed pigmentation of the face, genitalia, and mucous membranes. The Wassermann and tuberculin reactions were negative. The spinal fluid showed a normal cell-count, and a negative Wassermann and Lange test.

LUPUS ERYTHEMATOSUS IN ASSOCIATION WITH FAMILY DYSTROPHY OF HAIR AND NAILS. Presented by DR. EISENSTAEDT (by invitation).

The patient, aged 16 years, eldest of three boys in a family of eight children, showed identical anomalies. This condition had appeared in the last five generations in the mother's family.

URTICARIA PIGMENTOSA. Presented by DR. SCHAFFNER (by invitation).

The disease occurred in a child, 22 months of age, and was present since birth.

CASE FOR DIAGNOSIS. Presented by DR. SCHAFFNER (by invitation).

The patient was a young lady nurse, suffering from recurrent attacks of papulo-pustules with necrotic centres, healing with scars. The lesions were abundant on the extremities, flexor sides mostly. No subjective symptoms. The patient was in apparent good health and no evidence of tuberculosis was present.

ECCHYMOSES. Presented by DR. SCHAFFNER (by invitation).

Young lady, 23 years of age, who had suffered in the last nine years from sudden subcutaneous hæmorrhages, located on various parts of the body and varying in size from pinpoint to the area of a whole arm or leg. The lesions were sometimes preceded by trauma of some sort, but usually no known trauma existed. Menstrual disorders were not present. Coagulation time of the blood varied from fourteen to sixteen minutes (capillary tube and horsehair). One brother of the patient was said to be a bleeder. Except for a moderate anæmia, the young woman was in apparently good health, and no changes in the organs could be made out.

ORIENTAL SORE. Presented by DR. McEWEN.

This case was reported at length by the exhibitor at the Washington meeting of the Association, in May, 1913 (see *Jour. Cutan. Dis.*, April, 1914). On August 10, 1913, the condition had practically healed; in October a recurrence followed a severe sunburn of the ears. Under large doses of potassium iodide, great improvement occurred, but since the beginning of the present year the condition of the ear had not been encouraging. X-ray treatment in March seemed to

accomplish very little; the patient thought they were rather harmful than helpful. The general appearance of the ear was that of the original picture, with the pathological features multiplied two or threefold. The use of salvarsan was contemplated.

Note.—One week later, 0.3 gm. of neosalvarsan was given intravenously, resulting in great improvement. The results of a second injection could not be given at this writing.

DISCUSSION.

DR. RAVOGLI said the lesion was apparently of protozoal origin, and had to be treated as such. Personally, he had obtained excellent results by first removing the crusts with a mixture of castor oil and balsam of Peru, and then applying a freshly made preparation of formaldehyde (full strength), lysol (full strength), and one part of liquor perchloride of iron. Before applying this, a little cocaine should be used and the part then washed with alcohol, and, finally, the castor oil and balsam of Peru mixture should again be applied. He had had very good results by this method in blastomycosis.

DR. POLLITZER thought the case did not fit into the category of oriental sore, although in view of the histological picture presented by Dr. McEwen, the diagnosis could not be doubted. As he understood the man's history, the lesion had disappeared for a time and had then recurred following a trauma, and the question arose whether we were not dealing here with something different from the original lesion—a subsequent infection possibly of a tuberculous nature.

DR. McEWEN said that in the paper he had presented on this subject a year ago he had called attention to the fact that the pure type of this disease in the Americas was apparently not common, and that we usually had to deal with a mixture of oriental sore and various forms of saprophytic or pyogenic infection. Speaking of the treatment of these lesions, Dr. McEwen said that one method that had been advocated was to cover the lesion with lead foil, the efficacy of the procedure being explained by assuming that the Leishmann body must have the actinic rays; when these were cut off, the organisms died. This explanation was especially interesting in view of the history given by the patient shown; namely, that a sharp recrudescence occurred following a burning of the ear with the sun's rays.

DR. HOWARD FOX said that on a previous occasion he had already referred to the experience of Dr. Adams of Beyreuth, who was able to cure most of his cases of oriental sore within ten days or two weeks after one or two applications of carbon dioxide snow. In Dr. McEwen's case he understood that the carbon dioxide snow had been repeatedly tried, without improvement.

DR. McEWEN said there had been temporary improvement under the use of the carbon dioxide snow. In fact, in August, 1913, the ear had been practically well.

SCLERODERMA. Presented by DR. McEWEN.

F. F., 9 years old; duration of complaint, 6 years; parts involved, right leg and foot. The thigh showed atrophy of muscle and skin, with pigmentary changes; the lower portion of the leg, especially the anterior surface, showed marked sclerotic changes; at the flexure of the ankle a small crusted ulcer was present. There was considerable impairment of function at this joint. The trouble was believed to have been started by a severe fall.

DISCUSSION.

DR. McEWEN said he would like to have the treatment of scleroderma discussed.

DR. ZEISLER said he had seen marked improvement following the use of a spe-

cial form of digital massage, beginning at the extreme end of the fingers and gradually working upward.

DR. SCHAMBERG called attention to the importance of making a Wassermann test in scleroderma and giving salvarsan if it proved positive. He recalled a recent severe case which improved markedly under the administration of salvarsan. There were doubtless some of these cases for which *spirochætæ pallidæ* were directly or indirectly responsible.

DR. SCHALEK said he had seen very good results from massage with the oil of turpentine, together with the use of the high frequency current.

CASE FOR DIAGNOSIS. Presented by DR. McEWEN.

Miss S., aged 25 years, stenographer. Duration of disease, 2 months; the parts involved were the dorsi of the hands, especially the right. The lesions were small-shot-sized papules, very slightly inflammatory, closely grouped; many appearing vesicular, but containing no fluid. A few had disappeared, leaving purplish spots. There was considerable itching.

Opinions seemed to favor the diagnosis of tuberculide.

Note: Three days later, the hands and forearms presented a typical picture of erythema multiforme.

DISCUSSION.

DR. WILE said that if one saw this lesion on the face one would surely regard the case as lupus miliaris. The presence of the lesion on the hand, he thought, did not in any way detract from this diagnosis, and he wished to place himself on record as believing the case to be one of follicular lupus.

DR. RAVOGLI said he would call it a lupoid acne.

DR. HARTZELL said that the lesions looked tuberculous, but we would have to rely on the microscope for the final diagnosis.

LOCAL GIANTISM. Presented by DR. McEWEN.

B. B., 5 years old. At birth the index and middle fingers of the right hand were slightly larger than normal; the latter also was curved somewhat toward the ulnar side of the hand. Since birth these fingers had grown more rapidly than the others and were now about as large as those of a normal individual ten years older; the curve of the middle finger was marked.

DISCUSSION.

DR. CORLETT said that in a recent issue of the *Cleveland Medical Journal* there was a report of several cases of Banti's disease with hypertrophy of the lower extremity from the knee down.

CASE FOR DIAGNOSIS. Presented by DR. McEWEN.

M. S., aged 43 years, Russian, carpenter. The parts involved were the entire body; duration, 4 years; the onset was abrupt, in June. When first seen (Feb., 1914) the general appearance was that of a moderate ichthyosis; the skin was dry, harsh, exfoliating in fine scales, and pigmented everywhere in small, dark macules. Tinea versicolor was suspected at the time, but repeated microscopical examinations were negative. Great improvement had followed the use of simple unguents; when shown, the skin was fairly free from scales but the pigmented areas were not much changed. The diagnosis of parapsoriasis was proposed.

LUPUS ERYTHEMATOSUS. Presented by DR. McEWEN.

Mrs. A. R., aged 45 years, Russian. Duration, 3 years. The parts involved were the nose, angles of mouth, mucous membrane of lips and mouth and the

scalp. The lesions were typical. The history was suggestive of syphilis, but the Wassermann test was negative.

RAYNAUD'S DISEASE. Presented by DR. QUINN (by invitation).

Miss M., aged 34 years. Duration of disease, 14 years. There was a symmetrical involvement of both fingers and toes with local syncope, asphyxia and gangrene at times being present. There were also some involvement of the face, with contracture of the skin of the lips, preventing complete closure of the mouth. The Wassermann reaction was negative.

DISCUSSION.

DR. POLLITZER thought the case was a typical example of sclerodactylia. The association of teleangiectasis with this was not uncommon.

DR. FORDYCE said the case had impressed him as one of scleroderma. Still, there were transitional forms between scleroderma and Raynaud's disease which had to be kept under observation for a long time before we could arrive at a definite diagnosis. Possibly, it was a case of Raynaud's disease with scleroderma as a terminal stage.

DR. ENGMAN said that in these cases, especially when associated with teleangiectasis, there was often high blood pressure and other symptoms of hyperthyroidism.

DR. QUINN said that in the cold weather the fingers were almost black and blue.

DERMATITIS SEBORRHOEICUM. Presented by DR. QUINN (by invitation).

Helen P., aged 19 years, presented a scaling eruption of two years' duration, involving, at times, the entire body. She had been treated with vaccines, with some temporary benefit, but the usual methods of treatment were unavailing.

DISCUSSION.

DR. SCHALEK said he was inclined to agree with the diagnosis, but was surprised that there had been no improvement under hospital care.

DR. BRONSON said that on account of the very copious desquamation he thought the case was one of exfoliative dermatitis.

DR. QUINN, in closing, said the eruption would clear up at times, only to recur. The exfoliation, as remarked by Dr. Bronson, was very free at intervals, but there was always moisture present.

FOLLICULIS. Presented by DR. QUINN (by invitation).

Miss D., aged 10 years. The duration of the skin disease was 8 years. She presented vesico-pustular lesions on both upper and lower extremities, followed by scarring; these had been present since the onset of the disease. The Wassermann test was negative, and the von Pirquet was positive.

Treatment: Anti-syphilitic remedies had little or no effect. Tuberculin, injections and in ointment form, had been used with some beneficial results.

EPITHELIOMA OF LOWER LIP IN A FEMALE. Presented by DR. QUINN (by invitation).

Mrs. C. M., aged 65 years, presented a lesion, the duration of which was one year. The lesion started as a "cold sore" on the outer margin of the lower lip, on the right side.

CASE FOR DIAGNOSIS. ANGIOMA SERPIGINOSUM (?). Presented by
DR. PARDEE.

The patient was a woman, married, a housewife. Her history previous to the appearance of the eruption was negative.

On examination, the patient, a stout and apparently healthy woman of about fifty years of age, presented symmetrical lesions on the skin of the face, arms, forearms and hands. She stated that these had been present continuously, without appreciable change, since their simultaneous appearance seven years ago following the cessation of menstruation, and that they had caused no subjective symptoms. They consisted of sub-epithelial discolorations, not raised above the surrounding surface, in size varying from one to two cm. in diameter and roughly circular in outline. In color they were of a dark venous red which faded almost completely on pressure, leaving a very slight yellowish discoloration suggestive of pathological cell accumulation of some sort. There was no abnormal condition of the epidermis visible or tangible. On gentle pressure with the diascop, lines suggesting capillary dilation appeared, together with isolated dots as of hæmorrhagic points irregularly surrounding them. A small tumor situated on the index finger of the left hand had been removed previous to her appearance in the dermatological department, and this, on microscopic examination, proved to be of a sarcomatous nature (definite diagnosis not obtainable). No sections of the skin lesions were made and the patient disappeared immediately after her presentation before the Society.

Other cases presented by Dr. Pardee were as follows:

BROCK'S DISEASE (SEBORRHOEIC DERMATITIS TYPE).

DERMATITIS HERPETIFORMIS.

"SCHAMBERG'S DISEASE" (?).

DISCUSSION.

DR. WILE said that he would like to venture the opinion that this was a case of erythematous lupus of that variety which had given rise to so much literature, tending to show the relation between lupus erythematosus and the tuberculides.

DR. HARTZELL thought the case was one of erythematous lupus. There was distinct infiltration.

DR. ENGMAN said that on account of the nodules and the grouping, he would associate the case with the tuberculides.

SYRINGOCYSTOMA. Presented by DR. HARRIS (by invitation).

Mrs. F. For twenty years the patient had had an eruption scattered irregularly over the upper part of the chest, consisting of round papules of various sizes, the largest 0.5 cm. in diameter, of a yellowish-red, translucent color.

During the past four years the eruption had spread until it occupied the front of the neck and upper part of the chest, with a few on the abdomen and back, but none on the face or extremities. It had never itched or caused any disturbance, and had never ulcerated. Blood, urine and Wassermann were negative.

DISCUSSION.

DR. SCHAMBERG said he had an almost identical case in a young woman of 19 or 20 years, with several hundreds of small, round and oval lesions on the neck. He excised two of these, and under the microscope they presented a large number of cystic bodies in the corium, resembling very much dilated sweat ducts, but after examining many sections the case proved to be one of multiple cystic epithelioma of epidermal origin.

DR. HARTZELL said he did not agree with the diagnosis of cystic epithelioma,

as suggested by Dr. Schamberg. These lesions had their origin in the hair follicles.

Dr. GRINDON said the lesions about the right lower eyelid were suggestive of adenoma cysticum or lymphangioma cysticum.

Dr. POLLITZER said he did not regard this as a case of benign cystic epithelioma. The distribution of the masses in the corium was entirely different, although in the first case described by Török, there was some evidence that the process was connected with the ducts of the sweat glands, but this was not confirmed in later cases. The cases described under the name of syringocystadenoma were benign epitheliomata probably dependent on embryonally misplaced epithelial cells.

Dr. ORMSBY said that four years ago, before this Association, he demonstrated a case which it was his original intention to classify as a syringocystadenoma and which subsequently proved to be a case of syringoma. In that case there were pea-sized, reddish nodules covering the face and body. Histologically, the epithelial cells in the growth apparently came from the sweat apparatus, although this could not be positively demonstrated. Clinically, the patient did not sweat while suffering from the eruption, but after her recovery, she perspired normally. The patient made a complete recovery under X-rays and had remained well for over two years and perspired freely. Some attempts were made to study the perspiration, but nothing definite was learned.

Dr. HARRIS, in closing the discussion, said he had found no connection with the sweat glands in this case.

LYMPHANGIOMA CIRCUMSCRIPTUM. Presented by Dr. HARRIS.

Mrs. T., aged 21 years, a saleslady. The patient had had a birthmark along the axillary border of the right scapula. It was slightly elevated and "filled with water;" it persisted unchanged until the age of eighteen, when "blood blisters" developed; these, every once in a while, ruptured. About this time the area became infected and was opened and drained, and later excised. The scar became keloidal and about five weeks after operation, "blisters" again developed. There was some pain and tenderness in the area and difficulty in raising the arm.

The lesion consisted of an aggregation of vesicles, some being hæmorrhagic and varying in size from a pin-point to a pea or larger. Many showed a marked hyperkeratotic or wart-like appearance.

DISCUSSION.

Dr. HARTZELL said he had a case in which practically all of the lesions had disappeared under the X-rays.

Dr. ENGMANN mentioned a case of extensive lymphangioma covering the side of the abdomen which was cured by the X-rays.

ANGIOMA SERPIGINOSUM (?). Presented by Dr. HARRIS.

Mr. S., aged 21 years, a medical student.

The trouble had existed about ten years. It began on the inner side of the thighs and legs and gradually spread until it involved the thighs, trunk and arms, being especially marked on the thighs and lower part of the trunk. The face, fore-arms, hands and lower part of the legs were free. The eruptions consisted of macules, varying in size from a pin-head to the size of a silver quarter; the color varied from a reddish brown to a dark red, the smaller spots resembling cayenne pepper grains. There was some tendency to clearing in the centre of the larger patches and all showed a slight scaling.

The disease caused no discomfort whatever. There was no history of a similar

condition in other members of the family. Four brothers and one sister were not affected. The Wassermann reaction was negative.

DISCUSSION.

DR. MACKEE said that on account of the atrophy and pigmentation, he did not think this was a case of so-called infective angioma. He was inclined to regard it as a case of *purpura annularis teleangiectodes*, as described by Majocchi. Cases of this kind had been reported where the eruption was rather generalized, as in this instance.

DR. ARNDT (by invitation) said he was inclined to agree with Dr. MacKee that the case was one of *purpura annularis teleangiectodes*. These lesions began with small hæmorrhages and there was usually an absence of subjective symptoms. The microscope showed a large amount of round-celled infiltration.

DR. POLLITZER said he agreed entirely with the diagnosis. The scaly papules were rather an unusual finding in these cases, but the scaling was usually not very persistent and only temporary, and the lesions then presented this appearance of *teleangiectasis*.

CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

Mr. P., aged 34 years, was a university professor.

For two years he had noticed bluish-red spots on the skin of the trunk. The first one noticed was on the right side of the chest, about at the anterior axillary line, at the level of the seventh rib. They had increased in number until there were six, which varied in size from 2 to 6 cm. They were round or oval in shape, of a pale bluish-red color, not elevated or depressed and showed no scales or atrophy; they did not itch. Since the onset they have never changed in character and none has disappeared. The Wassermann test was negative and there was no history of lues.

DISCUSSION.

DR. PUSEY thought it was a case of morphœa.

DR. WENDE said he agreed with Dr. Pusey.

MYCOSIS FUNGOIDES (?). Presented by DR. HARRIS.

Miss. O'N., aged 18 years.

Two years ago the patient noticed oval or roundish patches on the back, of a yellowish-red color. Later, similar patches developed on the front of the thighs, on the arms and chest; six months later, similar patches developed at the outer end of each eyebrow and two over each malar bone. All of the patches were sharply defined, and slightly infiltrated, some more than others. The skin markings over the lesions were exaggerated. The more infiltrated patches itched somewhat. None of the lesions had disappeared nor changed in character, except to become more infiltrated.

DISCUSSION.

DR. SCHAMBERG said that from the lesion on the cheek, he would suspect an underlying visceral or glandular tuberculosis. He called attention to the violaceous color of the nodule on the cheek.

CHEILITIS. Presented by DR. HARRIS.

Mr. F., aged 27 years, salesman by trade.

Seven months ago, his lips began to swell. This swelling had been gradual and painless and was not preceded by any known lesion of the lips, nose or

mouth. The patient gave no history of lues, was married and had one healthy child. There had been no miscarriages.

The lips were markedly swollen, the vermillion border was everted, of normal color, and had a tendency to scale. The Wassermann reaction was strongly positive. Anti-luetic treatment seemed to cause no improvement.

DISCUSSION.

DR. RAVOGLI said cases of the kind had been always of syphilitic origin. In his experience they had been found in the negro race more frequently than among the white people. It can be referred to a kind of hard, indurated œdema from stasis, causing a thickening of the lips. In many cases both lips were affected, in some cases the upper or the lower only. The lower was more frequently affected than the upper lip. It seemed to be due to an obstruction of the circulation, and not to a local infiltration. It was possible that this condition was due to a specific periostitis of the upper, or of the lower jaw, which retarded the circulation. It was very stubborn to any treatment and sometimes lasted for years, but finally diminished gradually, leaving some deformity.

DR. ZEISLER mentioned a case of cheilitis of the upper lip, which was enlarged to about twice its natural size. There seemed to be an accompanying sycosis. Under mild X-ray treatment the patient had made considerable improvement.

CASE FOR DIAGNOSIS. Presented by DR. HARRIS.

Mrs. W., aged 66 years, married, and the mother of six children.

For six years she had the trouble, which began with a pin-head size, red spot on the tip of the tongue. This had gradually spread until it involved practically the whole of the anterior three-fourths of the tongue and at times the mucosa of the lips and mouth also.

The eruption on the tongue consisted of irregular, beefy-red areas, the papillæ of which seemed to be elongated and somewhat swollen and could be separated in lines like fur. There was no ulceration or bleeding. These red areas were extremely sensitive; changes of temperature, salty and sour food, or even the slightest pressure caused extreme pain which had a tendency to radiate up to the ear. The pain was so severe as to interfere seriously with mastication and articulation. In fact, for the past three years the patient had been unable to wear her artificial teeth. Between and surrounding the red areas the mucosa of the tongue was smoother and paler than normal and was not hypersensitive.

These two types of areas changed from time to time and for short intervals the tongue was apparently normal. At these periods the subjective sensations were much less intense.

DISCUSSION.

DR. ARNDT regarded it as a chronic inflammation of the mucous membrane of the tongue—the glossitis of Mueller.

BLASTOMYCOSIS. Presented by DR. FOERSTER.

Laborer, married, aged 70 years, said that the disorder began 7 months ago as a small group of tiny pustules on the dorsum of the right hand near the wrist, and during 5 months gradually increased so as to cover one-half the dorsum of the hand. About 4 weeks ago two highly inflammatory lesions of furuncular appearance developed on the extensor surface of the right forearm, a similar lesion appeared one week later on the upper part of the forearm, followed within a few days by other lesions appearing successively over the right biceps, flexor surface of the forearm and on the outer surface of the upper arm.

Some of these developed rapidly into small apple-sized abscesses, others developed to walnut size, and then subsided under treatment. The area primarily affected on the dorsum of the hand presented a typical verrucous, spongy appearance, studded with miliary abscesses at the border, from which blastomycetic organisms were recovered, as shown in smears and cultures. The cutaneous gummata on the arms were slowly absorbed, whereas those which were laid open developed the verrucous appearance of blastomycosis, especially at their margins. Under potassium permanganate and X-ray locally, and large doses of potassium iodide internally, the disorder rapidly progressed to recovery.

The case was presented as an example of cutaneous blastomycosis with development of cutaneous gummata. The clinical resemblance to sporotrichosis at one time was marked.

PITYRIASIS LICHENOIDES CHRONICA. Presented by Dr. FOERSTER.

Laborer, single, aged 21 years. He was a well built Sicilian, who stated that two years ago, just previous to his leaving Sicily, he observed the first indications of the disorder, as pinhead-sized, pink papules, which itched slightly for a short time after their appearance. A half dozen or more papules appeared at a time, first on the abdomen just below the umbilicus, later on the sides of the abdomen and chest, and gradually in the course of two years, had involved all the cutaneous surface except the head and neck, hands, and the legs below the knees. The primary papule gradually was transformed into a scaling lesion slightly larger than pinhead in size, with angular contour. None of the lesions had disappeared, but new lesions continued to make their appearance from time to time, so that the eruption was a variegated collection of papular, papulo-squamous and squamous efflorescences, without definite arrangement, and most profuse on the anterior aspect of the trunk, flexor surface of arms and forearms, and inner surface of thighs. Itching was present only when new lesions appeared. Mucous membranes were not involved. Growth of hair, finger-nails and toe-nails was apparently normal. The patient was apparently in good general health.

The case was presented as an instance of pityriasis lichenoides chronica.

LUPUS ERYTHEMATOSUS OF THE MUCOSÆ. Presented by Dr. FOERSTER.

Woman, single, aged 39 years, a clerk. She had observed, for the past year, two raised patches on the mucous membrane of the lower lip, increasing in size recently. For the past several years she had observed that the tips of the fingers of both hands grew entirely white when she was nervous. The menstrual history was normal. Upon examination the patient showed marked vasomotor instability, flushing and turning pale quickly, both hands were cool, moist, with skin reddened and rough over the dorsum, but smooth, red and thinned on the fingers. On the middle third of the mucous membrane of the lower lip were two oval, small fingernail-sized patches fused to one, at their point of contact. The margins were raised and more dense on palpation than the centre, the edges were round and sloped inward, saucer-like, to the concave central portion. The marginal part of the lesion was of a light pink color, and the centre was bluish. The lesions were painless. The remainder of the labial, gingival, and buccal mucous membrane was normal. The tongue was slightly coated and its structure normal. No glandular enlargement. There was oily seborrhœa of the entire scalp with thinning of hair. The thyroid gland was apparently normal. With the exception of a slight seborrhœic dermatitis of the face, with a branny desquamation, the entire cutaneous surface was free from eruption. The nail growth was normal.

The patient was exhibited as an instance of lupus erythematosus limited to the mucous membrane of the lip, with associated vasomotor disturbances, resembling Raynaud's disease.

CASE FOR DIAGNOSIS. ATROPHIA CUTIS (?). Presented by DR. CUNNINGHAM (by invitation).

Mrs. F., aged 48 years. The duration of the disease was 26 years. It followed an injury to the left ankle when she was 12 years of age. The disease began at the ankle, gradually spreading upward and downward; when presented it involved the entire limb from toe to groin, and buttocks to mid-line; there was generalized atrophy with some petæchial hæmorrhages into the skin. On the limb, below the knee, the skin was tightly stretched and shiny; above the knee there was generalized atrophy of the skin, with a bluish discoloration. There were small atrophic ulcers on the ankle and middle third of the leg. The entire limb was much smaller in size than the other limb. There were no subjective sensations, except pain at night.

CASE FOR DIAGNOSIS. PSORIASIS? Presented by DR. CUNNINGHAM (by invitation).

J. S., aged 43 years. Born in Russia. He had been in the United States for 3 years. He had had no diseases in the past except psoriasis on the elbows and knees; also a few lesions on the body, for the last ten years. He presented a papular eruption on the face and back of the hands. The duration was 2 weeks and the onset acute. There were no subjective sensations. The papules were discrete, dark red, split-pea size, some showing a slightly adherent, grayish scale.

LUPUS VULGARIS. Presented by DR. CUNNINGHAM (by invitation).

Miss S., aged 22 years. The duration of the disease was 15 years. It was limited to the left side of the face, involving the ear, cheek and nose and extending from the eyebrow to the chin.

VITILIGO WITH GIANT COLON. Presented by DR. MACKEY (by invitation).

The patient was a boy, aged 8 years. About two years ago the patient was admitted to the hospital on account of a distended abdomen, which pediatricians diagnosed as possible ascites. Exploratory incision revealed an enormously distended colon. The record showed that there were a few white spots on the skin at the time of operation, and the parents claimed that these had been increasing in number and had become numerous, scattered over the trunk and abdomen, and half-dollar to dollar in size. The patient was troubled with vomiting and was obliged to restrict the diet.

ICHTHYOSIS? Presented by DR. MACKEY.

The patient was a colored girl, aged 24 years. She and her family stated that up to the time she was fourteen years old, she attended school and had a skin which was in all respects normal. At that time she was vaccinated, and thereafter contracted ivy poisoning, and since that time the skin trouble had existed.

When 14 years old she menstruated three times, though she had never menstruated since. There appeared to be a contraction and atrophy of the tendons

of both knees, and the patient had not walked for 10 years—in fact she stated that she became too weak to walk since.

With the exception of a fringe of hair around the forehead, there was no hair on the scalp, no eyebrows or eyelashes. The finger-nails and toe-nails were clawlike and unkept. The extensor surfaces of the lower legs and the forearms had an alligator-hide appearance, and over the remainder of her body her skin was leathery and was throwing off an abundance of lamellated scales. All parts were perfectly dry, and there was an offensive odor.

The patient had not been under observation or treatment and no biopsy had been made.

DERMATITIS FACTITIA. Presented by Dr. MACKEY.

The patient was 32 years of age, unmarried, and deaf. He had had two or more operations for tuberculous glands of the neck. The condition began about five years ago. The lesions always appeared suddenly, and on accessible parts, and when first seen were blackish, necrotic spots, sharply defined, and varying in size from a pea to a silver dollar. In a few hours there would be an inflammatory halo, followed by a superficial sloughing. There were a few streaks, as if caused by a trickling liquid. No confession had been obtained and the agent used had never been discovered. Before one crop of lesions would entirely heal, new lesions would invariably appear. The patient never had any recurrence during confinement in the hospital. He had been free from the trouble since the last operation, ten months ago, having been impressed that new lesions meant another operation.

At the time of presentation, a few abrasions on the skin, evidently traumatic and self-inflicted, together with the numerous scars on the arms, legs and trunk, were seen.

PRURIGO. Presented by Dr. MACKEY.

The patient was a boy, Jewish, aged 11 years. Born in Chicago. There had been no skin trouble in other members of his family. The duration was since six months of age. The condition had been so severe that he had been in the hospital a large part of the time, since he was six months old.

The first examination revealed a miliary papular eruption, badly excoriated and blood crusted, located in patches, bilaterally, and more severe on the extensor surfaces, where the skin was harsh and thickened. The popliteal and flexor surfaces were fairly free. The axillary glands were very large and the inguinal glands were the size of walnuts, subsequently becoming painful buboes.

Soothing and protecting salves ameliorated the condition; the patient presented lesions outside of usual sites, no doubt due to scratching.

SCLERODERMA. Presented by Dr. MACKEY.

The patient was a girl, aged 12 years. The mother stated that the condition had been gradually developing for two years. The patient presented a number of finger-nail size white spots, located unilaterally on the right side of the chin and neck. A few of the spots had a yellowish cast, showed atrophy and had a cicatricial feel.

BLASTOMYCOSIS. Presented by Dr. MACKEY.

The patient was born in Germany, was 56 years of age, and a cement worker by occupation. He had had his skin disease for over eight years.

There were superficial, atrophic scars over the face, completely encircling his neck and extending down over the clavicle, with a few active lesions. The

blastomyces had been found a number of times, and he had been nearly healed on several occasions.

BLASTOMYCOSIS. Presented by Dr. MACKAY.

The patient was an Italian laborer, 67 years of age. He had lived in America for twenty years, and had the trouble for twelve years. He had an ectropion of the lower lids of both eyes; both cheeks were covered with a smooth, soft scar, and at the margins of the scar were several typical blastomycotic lesions, from which the blastomyces had been demonstrated. The patient had been seen at intervals for two years, but had had very little treatment.

ÆTIOLOGY OF ERYTHEMA NODOSUM*

AND A DEMONSTRATION OF SPECIMENS, GUINEA PIG INOCULATIONS AND CULTURES OF MICROÖRGANISMS (by invitation).

By E. C. ROSENOW, M.D., Chicago.

Preliminary Note.

(From the Memorial Institute for Infectious Diseases, Chicago.)

The node, or a portion of it, together with a small piece of the overlying skin, is excised with the strictest aseptic precautions, exposed to the air as little as possible and taken to the laboratory at once for cultures. The cultures from the skin and subcutaneous node are made separately after a portion is saved for microscopic study. The tissues are emulsified after being passed through a Bunsen flame and rapidly cooled in sterile NaCl solution in a specially devised sterile air chamber, and the emulsion planted chiefly into tall columns of liquified ascites-dextrose agar. The cultures are incubated at 37° C. for at least ten days before they are discarded. The skin usually showed a few colonies of staphylococcus, and only twice contained the same organism as that found in the subcutaneous infiltration. From the subcutaneous node a polymorphous, sometimes clubbed, often curved, barred diplobacillus has been isolated usually in pure culture in each of six typical cases of erythema nodosum; from a cervical gland, draining an infected tonsil, in one case; in mixtures from the focus of infection (tonsil and superficial ulcer on the anterior pillar) in two cases, and from the blood in pure culture, in two cases. The organism is markedly pleomorphic, in some cases resembling closely diphtheroid bacilli, while in one case it resembled streptococcus on isolation. In smears from the original colonies all gradations between typical bacillus forms, elongated diplococci and typical coccus forms, may be made out. The last are often seen as an enlargement at the end of, or in the middle of, the bacillus forms. On artificial cultivation and on animal passage, the pleomorphic character of the bacillus largely disappears, it becoming a small, chiefly Gram negative, quite uniformly sized rod, and under special conditions in the former, and constantly after animal passage, there is obtained a streptococcus which decolorizes quite readily by Gram; produces a grayish brown growth on blood agar without hæmolysis and forms chains of from four to twenty numbers in dextrose broth or milk. This result suggests strongly that we are dealing with a mixture of a bacillus and coccus, but the fact that the individual colonies obtained in pure form both from the node and blood; the fact that all gradations between may

* Presented (by invitation) before the 38th Annual Meeting of The American Dermatological Association, Chicago, May 6-8, 1914.

be found in smears from single colonies and that the streptococcus forms are obtained only under special conditions such as diminished oxygen pressure, makes it likely that the organism which morphologically might be considered an organism partaking both of the nature of a bacillus and coccus, represents really an intermediate form, and that a bacillus or coccus is formed subsequently, depending upon conditions of environment. When the organism is injected intravenously soon after isolation in dogs, rabbits and guinea pigs, it shows, as illustrated by the specimens which I shall pass around, a striking affinity for the subcutaneous tissues; producing localized subcutaneous hæmorrhages, followed by infiltration and migration of leucocytes and enlargement of the regional lymph glands. These hæmorrhages are often symmetrically placed. From these areas the organism has been isolated repeatedly. It is of a low grade of virulence and disappears rapidly from the circulation. On artificial cultivation, even for only three or four subcultures and on animal passage, the affinity for the subcutaneous tissues disappears. In the former, no lesions are produced while in the latter, as the virulence is increased and as the organism becomes unquestionably a streptococcus it acquires an affinity for the joints, muscles, fasciæ and endocardium, producing hæmorrhages in the paraarticular structures, in muscles and valves of the heart, soon after injection, and later non-suppurative arthritis and myositis and simple endocarditis.

From the evidence at hand, it seems that we have in these findings not only the cause of erythema nodosum but an explanation of its mode of origin and its relation particularly to rheumatism and to measles, diphtheria, scarlet fever and tuberculosis—diseases in which the structures involved probably serve as foci of infection for this organism to gain entrance.

The details of these experiments and review of the literature are to appear in a forthcoming number of the *Journal of Infectious Diseases*.

DISCUSSION.

DR. POLLITZER voiced the pleasure of the members of the Association at having witnessed this beautiful demonstration. He stated that the subject of erythema nodosum and allied conditions, such as erythema multiforme, and their relationship to rheumatism stood out in a much clearer light since he had listened to Dr. Rosenow's explanation. The theory that erythema nodosum was an embolic process was one which all were ready to accept and that the embolus was of bacterial origin seemed now extremely probable. It was interesting to note that so small a modification of the technique as the grinding up of the tissues in a sterile atmosphere was the keynote of this investigation, and would open the door to a much wider field than that in which it had thus far been employed.

DR. ENGMAN said he regarded this as one of the most valuable demonstrations that had ever been presented at a meeting of this Association, because it opened up such an enormous field. In our text-books we spoke of the various types of erythema groups as being distinct entities, but it was probable that this entire group, erythema nodosum, erythema multiforme and various types of urticaria belonged to the same group. Another very remarkable point was the affinity of the microorganisms for subcutaneous veins.

DR. RAVOGLI said the demonstration given by Dr. Rosenow proved that tiny emboli produced by microorganisms arriving at the ramifications of the capillaries, caused them to become plugged, and as a result, produced exudations and erythematous nodules. A similar process was observed in syphilis, where the spots of roseola were nothing more than the spirochætæ arriving at the subdivision of the blood vessels, plugging the arterial cones, and setting up an inflammatory process, with slight exudation and effusion of the hæmatine, with the formation of the patch of roseola, or if more advanced, the formation of papules.

REVIEW
OF
DERMATOLOGY AND SYPHILIS.

Under the direction of

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(November, 1913, cxviii, No. 2.)

Abstracted by JOHN H. STOKES, M.D.

ON SARCOMA IDIOPATHICUM MULTIPLEX HÆMORRHAGICUM
KAPOSI. J. SAPIIER, p. 671.

The writer reports a fairly typical case, which, however, presented the rare feature of extension of the pathological process along a nerve trunk as well as along the vessels, with involvement of the nerve sheath. The latter structure was riddled with numerous blood spaces, and extensive infiltration of the connective tissue with spindle and plasma cells had occurred. Campana and Semenow are the only authors cited as having observed this form of extension in the hæmorrhagic sarcoma.

A NEW MYCOSIS (ACAULIOSIS). K. VIGNOLO-LUTATI. p. 681.

Clinically the patient presented a chronic polymorphous dermatosis, suggestive both of gummatous and tuberculous origin, with the formation of indolent purplish or reddish nodules and tumors, which broke down, giving rise to fistulæ and ulcers. Culturally and morphologically the organism was found to differ from the sporothrix, and was identified by Matruchot as an *Acaulium*, belonging to the same group of molds as the familiar *Aspergillus* and *Penicilium*. The pathogenic character was demonstrated by animal inoculation, and agglutination and complement fixation tests were successfully carried out. The histopathology was that of an infectious granuloma. Cutaneous but not visceral metastatic foci were demonstrated in experimental animals. The metastases were probably hæmatogenous, the lymphatic system showing no involvement. Treatment of the patient with massive doses of potassium iodide was apparently effective.

(*Ibidem*, March, 1914, cxviii, No. 3.)

MYCOSIS FUNGOIDES OF THE SKIN AND INTERNAL ORGANS. R. PALTACF and L. VON ZUMBUSCH, p. 699.

The authors report in detail two cases of mycosis fungoides with very extensive visceral involvement. Marked infiltration of blood vessel walls, a special tendency to early necrosis in the infiltrates and a normal blood picture in both patients are features of special interest. The writers oppose the conception of an association between true mycosis fungoides and lymphosarcoma, leukæmia and the true blood diseases. They believe the two cases reported to support the opinion that the mycotic tumors are true granulomata, the products of a local chronic inflammation due to a systemic disease. The more usual manifestations are localized in the skin, giving rise to the conventional picture, but the visceral manifestations are essentially homologous.

A CASE OF CHRONIC GLANDERS IN MAN. VAN DER VALK and SCHOO, p. 743.

The writers give the following points as of diagnostic value: (a) polymorphous lesions ranging from roseola to the presence of abscesses and phagadenic ulceration; (b) a chronic course with some tendency to local healing; (c) good general health; (4) localization of lesions to the mucosa of the nose, mouth and larynx; (e) the simultaneous presence of large scars near areas of ulceration. Mallein is considered worthless therapeutically and too dangerous to use for diagnosis in man.

ON THE ACTION OF SALVARSAN AND NEOSALVARSAN IN THE BODY. E. RIEBES, p. 757.

As a result of experiments on animals, Riebes reaches the following conclusions in regard to intramuscularly administered salvarsan and neosalvarsan. Within the first twenty hours, 60% of old salvarsan is absorbed; the absorption of neosalvarsan is much more rapid and only traces remain after twenty hours. In ten weeks the last traces of old salvarsan have disappeared, as compared with six weeks for neosalvarsan. The alkaline solution of old salvarsan was more rapidly absorbed than the neutral. The presence of the amido group would seem to show that the drug remains as such in the tissues. There was no evidence to show that iodides hastened or mercury delayed the absorption. In the case of intravenous injection, the presence of salvarsan in the urine within five minutes was demonstrated. It disappeared from the urine as such in about five hours. By the end of the first hour after injection the concentration of salvarsan in the blood is lower than in the second or third hour urine, showing that the drug is eliminated also through other channels. Salvarsan disappears as such from the blood serum in three hours, but in one case of salvarsan death the amino group was still present in the serum 19 hours after injection. Death occurred with cerebral symptoms on the third day. Riebes found that the larger doses (.5 and .6 gms.) in man did not cause the disappearance of spirochætæ from active lesions any more rapidly than the smaller doses of .3 gms., and concludes that from this standpoint the larger doses are unnecessary. Neosalvarsan was slightly less efficient in this particular than old salvarsan.

In summarizing, the following points are especially noted. (1) Arsenic is present for a longer time in the body after salvarsan than after either atoxyl or arsacetin. (2) The amino group is present only a short time in blood and urine. (3) Accumulation or storage of the drug occurs in the internal organs, especially the liver. This is decidedly greater after intravenous injection than after intramuscular administration. (4) The elimination of salvarsan takes place through urine and fæces. None was found in the sweat. Arsenic, as distinguished from

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salvarsan, is found in traces in the urine for months. The central nervous system contained no arsenic. No relation between the elimination of arsenic and the size of the initial dose of salvarsan could be established.

ON THE PRACTICAL UTILITY OF THE HERMAN-PERTUTZ REACTION AND THE POPOFF SERO-DIAGNOSIS IN SYPHILIS. M. STERN, p. 772.

It will be recalled that the Herman-Pertutz reaction (*Med. Klin.*, 1911, No. 2) is a precipitation test for luetic sera, performed by the use of a cholesterin suspension made with sodium glycocholate in alcohol. Stern's article gives the results of comparisons between this test and the Wassermann complement-fixation test. The conclusions are as follows:

1. The Herman-Pertutz reaction is in a high degree characteristic of lues, but is not absolutely specific. (One in 53 controls reacted.)

2. In definitely luetic sera the reaction gives 20% less positives than the Wassermann. On the other hand, in definitely luetic sera, the Herman-Pertutz reaction was positive in 4% where the Wassermann was negative.

3. The test may be performed in conjunction with the Wassermann reaction, but has only a limited value.

4. The quality of the sodium glycocholate is important, and only the Merk preparation is to be recommended.

The Popoff test, inhibition of hæmolysis of guinea pig red corpuscles by luetic sera (described in the text), is rated as of no practical value.

ON PSEUDO-COLLOID MILIUM. L. ARZT, p. 785.

Continuing his discussion of colloid degeneration in the skin, Arzt contends that a wide range of conditions can be brought under the term "colloid" if rightly understood. On the basis of localization of the process in the skin, he establishes two groups. The first of these is colloid degeneration of the elastic tissue and includes the changes in scars, inflammatory processes, neoplasms and senile changes. The second includes colloid degeneration of the collagenous tissues, and embraces most of the cases of colloid milium, colloidoma liliare, and colloid degeneration of the skin. He suggests that in the future the use of the term "pseudo-colloid degeneration of the elastic (or collagenous) tissues" in place of "colloid" will eliminate the existing confusion.

DERMATOLOGISCHE WOCHENSCHRIFT.

(June 13, 1914, lviii, No. 24.)

Abstracted by MAX SCHEER, M.D.

TWO CASES OF HYPONOMODERMA (CREEPING ERUPTION). WILHELM AUERJHANN, p. 673.

In a 3 year old boy, suffering from repeated but very brief attacks of convulsions, Auerhann found a creeping eruption on the back, where the boy had complained of pain. Efforts to destroy the parasite with parasiticides and ethyl chloride freezing were ineffectual, but it was finally crushed by pinching with the fingers. It is not shown that the convulsions were other than a coincidence. The second case had no unusual features.

The mode of entrance into the skin is discussed. It is probable that in some cases the eggs or larvæ are deposited on an abrasion. In others, the ova may be

swallowed with food, and the larvæ burrow into the skin after leaving the intestinal tract.

A THYROID CANCER WITH SKIN METASTASES. FILLIE, p. 676.

Cancer of the thyroid usually produces metastatic growth in the bones and lungs, but in no case previously reported has the skin suffered metastatic involvement. There were tender bluish-red nodules on the feet and legs, histologically identical with the thyroid growth.

(*Ibidem*, June 20, 1914, lviii, No. 25.)

THE SPINAL FLUID IN UNTREATED CASES OF EARLY SYPHILIS.
C. GUTMANN, p. 705.

In 1913, Altmann and Dreyfus reported their findings in a group of 64 cases of untreated syphilis in the first and second stages; 80% of these showed some changes in the spinal fluid. Gennerich, on the other hand, believes meningeal infection to be universal in early syphilis.

Gutmann has examined the spinal fluid in 57 cases of untreated primary and secondary syphilis, using the Wassermann and globulin reactions, the cell count, and in most cases the spinal pressure and total albumin determinations. His percentage of positive changes is much lower than those of the preceding investigators, and agrees more nearly with the 30% reported by Fraenkel.

THE TECHNIQUE OF USING ZIELER'S 40% CALOMEL EMULSION
FOR SYPHILIS. KARL RÜHL, p. 714.

The discussion of the anti-luetic effectiveness of salvarsan is far from being closed. But the general experience of syphilologists seems to indicate that a permanent cure in any but the very earliest cases demands a combination of salvarsan with energetic mercurial treatment. Soluble mercury preparations produce a prompt effect, but of short duration. These are now replaced by salvarsan, because of its more energetic action. But the insoluble salts of mercury are still needed for their sustained effect. Mercury salicylate, although grouped with the insoluble salts, resembles the soluble preparations in its action inside the body. Gray oil is not so safe and is otherwise less satisfactory than calomel, which Rühl considers the best mercury preparation. The 5 and 10% suspensions of calomel, however, not infrequently produce painful infiltrations, or even aseptic abscesses; and the accurate estimation of dosage is very difficult. Zieler's 40% emulsion is better, as the smaller volume of the injection causes less trauma and therefore less local reaction. Cases subjected to this treatment must be carefully selected with reference to the activity of their kidneys, liver and gastrointestinal tract. Tuberculosis, arteriosclerosis, advanced age or a cachectic condition offer further contraindications, while during the treatment the greatest care must be taken of the mouth, and the urinary secretion carefully watched. Rühl keeps the calomel emulsion in glass ampules, which he empties directly into the syringe barrel.

(*Ibidem*, July 4, 1914, lix, No. 27.)

OBSERVATIONS ON CUTANEOUS ABSORPTION OF SALICYLIC ACID
IN PLASTERS. J. T. LENARTOWICZ, p. 791.

With the exception of mercury, chrysarobin, phenol and a few similar drugs, absorption through the intact skin is generally considered a negligible factor in

therapeutics. Lenartowicz reports one death as well as one case of severe intoxication following the application of 40% salicylic acid soap plaster over extensive areas of lupus. In neither one was there any large denuded area to favor absorption. The symptoms began within 12 hours, and included headache, dizziness, tinnitus aurium, impaired hearing, vomiting, and air hunger. The fatal case, in a 16 year old girl, developed a temperature of 40.8° C., and died 21 hours after applying the plaster. The post mortem finding of a persistent thymus, as well as the high temperature before death, incline Lenartowicz to the belief that the drug intoxication was not the sole cause of death.

To determine whether absorption would occur as readily through normal skin, experimental applications were made and similar symptoms produced. The local effects produced by the plaster were redness, swelling, maceration and a few scattered vesicles. It is this caustic action that increases the permeability of the skin, and applications containing only 5% salicylic acid produce a distinct salicylate reaction in the urine.

It is of interest to note that sodium salicylate and the other salts differ from the acid in being absorbed to a slight extent only. Bourget, in 1893, reported experiments showing the cutaneous absorption of salicylic acid, and Lenartowicz feels that if he had known of this work (which is not mentioned in the books at his command) he would have hesitated to use so much salicylic acid.

EXPERIENCES WITH HAIR LOTIONS OF EURESOL (KNOLL). PAUL JACOB, p. 810.

The chemical structure of euresol is resorcinmonoacetate and it is marketed for use on the scalp under the name "euresol pro capillis," a perfumed, brownish solution. It resembles resorcin in its action, but does not discolor light hair. In most cases Jacob uses the following formula: Euresol pro. cap. 10.0; spirit, 125.0; aq. dest., ad 250.0—to which may be added either sublimate, tannin, quinine or salicylic acid. For about one month the lotion is applied every second night in small amounts; then the intervals can be lengthened to three or four days.

(*Ibidem*, July 11, 1914, lix, No. 28.)

SYPHILIS TREATMENT AND WASSERMANN REACTION. BERNHARD FUCHS, p. 831.

In a long article with many tables, Fuchs gives statistics on 843 cases treated with intragluteal and intravenous injections of salvarsan and neosalvarsan, both with and without mercury. There were 231 cases that developed a relapse (serologically) but Fuchs believes these figures are too low, as some were under observation for less than 6 months. Clinical relapses were less common than before the advent of salvarsan, but positive clinical or serologic evidence occurring 20 or 28 months after apparent cure should prohibit too great optimism regarding the action of salvarsan. Neosalvarsan appeared to be somewhat inferior to the older preparation, but the 12 arsenic exanthems and the 4 severe reactions on the part of the nervous system all followed the use of salvarsan.

Differences in the virulence of *spirochætæ* strains is suggested to explain some of the unusual Wassermann reactions; for instance, clinical relapse with negative Wassermann, or persistent Wassermann in spite of energetic treatment. While a positive serologic reaction is always an indication of active syphilis, a negative reaction does not permit any final conclusion.

Fuchs believes that the intragluteal injections of salvarsan and neosalvarsan give more lasting results than the intravenous. Serologic examination should be continued for years, and provocative injections used from time to time.

(*Ibidem*, July 18, 1914, lix, No. 29.)

FAVUS OF THE NON-HAIRY SKIN IN JAPAN. T. AOKI, p. 863.

Favus of the scalp is not uncommon in Japan, but only two cases of involvement of the non-hairy integument have been reported. In both instances, the infection spread from the scalp. One of these cases was studied by Aoki, who isolated an atypical form of *Achorion Schönleini*. Minute cultural details are given.

THE USE OF ANTISEPTIC AND DRYING POWDERS IN DERMATOLOGY. LADISLAUS NEX, p. 873.

There are two chief types of drying powders,—those that contain iodine and those that do not. Vioform belongs to the first group, is odorless, and more efficient than iodoform. Reference is made to a number of writers who have lauded the action of vioform.

(*Ibidem*, July 25, 1914, lix, No. 30.)

ZINKMATTAN AS A SUBSTRATUM. P. G. UNNA, p. 895.

The "Mattan" pastes differ from other fat-containing pastes in the rapidity with which they become dry, thereby overcoming the shininess of the anointed skin. The rapid drying is due to the porosity and the water content. At first this cosmetic effect seemed the only indication for the use of "Mattan" paste, but in the past two years Unna has used it with considerable satisfaction as a substratum, over which other substances are applied. The formula for "zinc-mattan" is zinc oxide, bismuth oxychlorate, linseed oil, lime water, $\hat{a}\hat{a}$ 10.0; Mattan, 20.0. Unna gives the following indications for the use of "zinc mattan":

1. In the collodion treatment of *nævi* and other conditions benefited by pressure, the collodion can be applied over a film of "zinc-mattan." This permits an easier removal of the collodion, and is useful where short periods of treatment are desired.

2. In using his exfoliating paste in the treatment of *rosacea*, Unna had been accustomed to add 10% *anæsthesin*. Now he omits the latter and uses a preliminary application of "zinc-mattan."

3. Where a fixed dressing with zinc glyco-gelatine (*Zincleim*) is used, the "zinc-mattan" can also be utilized, particularly as a vehicle for more active remedies, over which the glyco-gelatine can be readily applied.

A NEW METHOD OF TREATING ACUTE ECZEMA. FR. SAMBERGER, p. 899.

Samberger advocates the use of a 1% aqueous solution of *resorcin* in the treatment of weeping *eczema*. The solution is heated in a stone or porcelain dish and the applications used as hot as the skin will tolerate. After bathing with *resorcin* the part is allowed to dry and is then lightly bandaged with gauze. From one to three applications are made daily, and in a few days the skin becomes dry. Unna's paste is then used: zinc oxid. 10.0, terr. silic. 2.0, adipis 28.0. Lassar's paste is not used, because the starch may irritate.

IMMUNOTHERAPY EXPERIMENTS IN SYPHILIS. A. GROSGLICK, p. 927.

Stimulated by the animal experiments of *Metschnikoff* and *Roux*, *Grosglick* has used alcoholic extracts of syphilitic liver in the treatment of all stages of human syphilis. The extracts were obtained from various laboratories, and the effects varied not only with extracts from different sources, but also with supplies

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obtained at different times from the same source. Starting with small doses, the amount was increased until 0.5 to 1.0 was given once or twice a week by hypodermic injection. In two cases the patient fainted at the time of injection. One of these had a severe collapse, that required camphor injections, as well as the subcutaneous use of salt solution and adrenalin. This patient was subsequently shown to have been in the first stage of typhoid, which may explain the unusual symptoms. In some cases the extract was also used directly on the lesions, and sometimes with astonishing, though temporary, improvement.

Sixty-six cases were treated by this method, with good results in 41.3%, and relatively good in 38%, while 20% responded indifferently. A thorough analysis of these cases is given, and the article is concluded in No. 32 of the *Dermat. Wchnschr.* with the following summary:

1. Extract of syphilitic liver exerts upon all stages of syphilis a specific effect similar to that of mercury, iodide, and salvarsan.
2. In rapidity, intensity and uniformity of action it is far behind these.
3. The best results are obtained in secondary syphilis, the least satisfactory in recent infections.

HYPERSENSITIVENESS TO RUBBER ADHESIVE PLASTER. A. V. KNACK, p. 936.

Knack reports the case of a 25 year old male patient, whose skin reacted violently to every application of adhesive plaster. A history of this hypersensitivity extended back for a period of nine years. The patient was thin, pale, and of a distinctly neurotic type.

Two hours after applying a strip of "leukoplast" adhesive there developed burning and itching, which became so severe that sleep was impossible. On removing the adhesive in the morning the skin showed a wheal-like swelling, with considerable redness and heat. The inflamed area spread considerably in spite of treatment, and developed into a vesicular eczema that persisted for two weeks.

Experimental applications of various makes of adhesive produced similar reactions, except in the case of "Guttaplast" (Beiersdorf) which was well tolerated. Knack finally determined that the exciting cause was the dammar resin used in making adhesive plaster.

(*Ibidem*, Aug. 8, 1914, lix, No. 32.)

EXPERIENCES WITH THE FRIEDMANN TREATMENT IN LUPUS AND BONE TUBERCULOSIS. P. WICHMANN, p. 951.

Seven cases of lupus were treated by Friedmann himself, under the observation of Wichmann and others. There was no evidence to show that the treatment was curative, and in three cases it seemed to favor the spread of the disease. One case developed inoculation tubercle at the site of injection. The article is illustrated with photographs showing the status before and after treatment.

(*Ibidem*, Aug. 15, 1914, lix, No. 33.)

GENERALIZED HERPES ZOSTER. ANT. TRYB, p. 983.

A man of 60 years, with early pulmonary and lymph node tuberculosis, developed gangrenous zoster on the left side of the thorax, with disseminated vesicles on the body, head and extremities. The vesicles came out at irregular intervals, so that various stages of development were present. Histologic examination confirmed the diagnosis. The aetiology is discussed, and the associated tuberculosis considered an important factor. The treatment was by quinine internally and indifferent local treatment.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(August 4, 1914, lxi, No. 31.)

Abstracted by ARTHUR W. STILLIANS, M.D.

CONCERNING THE BIOLOGIC RANGE OF ACTION OF THE RAYS OF RADIUM, MESOTHORIUM AND ROENTGEN RAYS. B. KROENIG, p. 1715.

The idea so prevalent that the radioactive bodies are of no value for the treatment of tumors more than three centimetres deep is declared a great mistake. A case is cited in which there is no doubt a definite effect on a carcinoma treated through 10 cm. of tissue, with no appreciable effect on the healthy overlying tissue. In the experience of the author, the largest number of lasting cures of deep carcinoma, all from one to three years without recurrence, are those treated with the radioactive bodies. With his new technique, placing the source of the rays 6 cm. from the surface, he has obtained good results in deep tumors. He denies that he considers the radioactive bodies better than Roentgen rays in carcinoma. He does believe that the effect is not altogether dependent on the penetrability and that there is as much or more difference between X-rays and the gamma rays as there is between red and ultraviolet light. It is a great mistake to say that the treatment of carcinoma with radium and mesothorium is not practical and that only X-rays are of value.

DEVELOPMENTS IN THE TREATMENT OF CARCINOMA WITH ROENTGEN RAYS. J. A. AMANN, p. 1716.

The newer therapeutic X-ray machines produce rays very near the gamma rays of mesothorium and radium in their coefficient of absorption. While the ordinary X-rays have a coefficient between 8.0 and 2.0, the latest type of machine produces rays with a coefficient of 0.3. The coefficient of the gamma rays is 0.1. This figure is not at all impossible to reach with X-rays. There is no doubt of the ability of radium and mesothorium to do the work if only enough could be obtained; but as Bumm and Warnekos have shown, it would require 500 gms. to do the work of one X-ray tube.

With the rays of high penetration and low coefficient of absorption the author has found that 100 X can be safely given in each field, without any reaction following, of course under a heavy filter of aluminum. When more is given, to the point of producing a first degree burn, it heals much more readily than the irritation produced by softer rays. We are working with an entirely different therapeutic agent when we use the rays of high penetration, and every effort ought to be made to see that our machines produce such rays. This is at present rather difficult, but should be easier when the electroscopic method of measurement is available.

THE COLLOIDAL NITROGEN OF THE URINE AND ITS SIGNIFICANCE IN THE CLINICAL DIAGNOSIS OF CARCINOMA. P. L. J. DE BLOEME, S. P. SWART and A. J. L. TERWEN, p. 1718.

In the hands of the authors, the Salkowski-Kojo method of determining the colloidal nitrogen in the urine gave no results of value in the diagnosis of carcinoma. The highest values were not found in the carcinoma cases. By dialyzing the Kojo precipitate of colloidal nitrogen for 24 hours in running water and estimating the undialyzable nitrogen by the Kjeldahl method they obtained

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readings for four cases of carcinoma which averaged over four times as high as the average reading of four non-carcinomatous cases, three healthy persons and one case of pernicious anæmia.

(*Ibidem*, Aug. 11, 1914, lxi, No. 32.)

THE IONOMETER AND ITS APPLICATION TO ROENTGEN DOSIMETRY. H. GREINACHER, p. 1778.

The ionometer, long used for the measurement of radium and other radioactive substances, has at last been adapted for the measurement of X-rays. It measures accurately the ionizing power of the rays acting upon a fixed amount of air. The penetrability of the rays can also be measured by interposing a filter. This promises much in a field where a good deal is lacking.

OPERATION OR RADIATION? L. HEIDENHAIN, p. 1781.

A reply to the article of C. Mueller, in No. 22 of this volume of the *Muenchener medizinische Wochenschrift*. The author challenges some of Mueller's statements and presents the subject from the surgeon's standpoint.

(*Ibidem*, Aug. 18, 1914, lxi, No. 33.)

CLINICAL AND EXPERIMENTAL RESEARCH ON THE ACTION OF SALVARSAN UPON CONGENITAL SYPHILIS OF THE FŒTUS THROUGH TREATMENT OF THE MOTHER. E. MEYER, p. 1801.

The statistics of Sauvage on the unsatisfactory results of the mercury treatment of the syphilitic pregnant are quoted. Of 217 cases of early syphilis treated systematically with mercury during pregnancy, only 25.46% bore living children. Of these, 10% had lesions of syphilis. In contrast to these figures the results of the salvarsan treatment of the same class of cases by various authors are tabulated. The author then reports his own results on 43 cases. Only one child was born dead, in the sixth month of pregnancy. The mother had received 0.8 gm. of salvarsan and 0.05 gm. mercury salicylate in the two preceding months. Of the children born alive, five died within the first week. Of the living children, five have a positive Wassermann reaction as the only sign of lues, one has a palpable spleen and one a luetic periostitis.

The author is convinced that the combined mercury-salvarsan treatment far excels the mercury or mercury-iodide treatment. He uses 0.2 to 0.4 gm. doses of salvarsan every five to eight days and between the injections salicylate of mercury 0.05 to 0.1 gm. intramuscularly. The functioning of the kidneys is carefully watched. He considers 1.5 gm. salvarsan and 0.5 gm. mercury salicylate the minimum safe dosage. Eighty-six per cent. of children living 10 days after birth contrasts well with the figures of Sauvage.

His experimental work was a search for arsenic in the placenta, the blood from the umbilical cord and the fœtus of the human and of animals after injections of salvarsan. He concludes that the healthy placenta is impervious to arsenic in the maternal circulation, but a small amount can pass through the syphilitic placenta. The action of antisyphilitic treatment during pregnancy is primarily upon the maternal infection, thus preventing infection of the placenta. Salvarsan is well borne by the pregnant. No abortions or hæmorrhages or foetal deaths were seen after the intravenous injections.

Children of syphilitic mothers should be treated for syphilis even though they show no signs of the disease.

THE TECHNICAL PRODUCTION OF GAMMA RAYS. F. DESSAUER, p. 1804.

A repetition of his claim to have produced an apparatus that gives off rays physically identical with the gamma rays of radium C and mesothorium. The apparatus is still in the experimental stage.

TOXIC EFFECTS OF EMBARIN. A. PASINI, p. 1808.

A 70-year-old woman with a gumma of the leg was given intramuscular injections of embarin, the contents of one capsule every other day. On the second day after the sixth injection the patient complained of headache and malaise and showed a temperature of 38° C. These symptoms increased and an œdematous erythema appeared over the whole body except the scalp, palms and soles. On the fifth day after this, the erythema had disappeared.

Beside the report of Merzbach in the *Muenchener medizinische Wochenschrift* of June 2, 1914, the author mentions Salomonski, Feind, Sowade, Gappitsch and Loeb as having had untoward effects from the drug and concludes that it is much more liable than the other soluble salts of mercury, to produce them.

OPERATION OR RADIOTHERAPY? C. MUELLER, p. 1809.

A reply to L. Heidenhain's article in No. 30 of this volume of the *Muenchener medizinische Wochenschrift*. Mueller makes a plea for the use of radiotherapy in certain operable cases. He claims that it is not logical to confine the radiotherapist to practically hopeless cases when the method has already proved its superiority to surgery in the cure of malignancy.

(*Ibidem*, Aug. 25, 1914, lxi, No. 34.)

CRITICAL OBSERVATIONS ON THE PATHOGENESIS OF A "SALVARSAN DEATH." W. WECHSELMANN, p. 1845.

The improvements of technique, the more careful choice of cases, and the closer watch kept upon them have resulted in a marked lessening of the injuries and deaths due to salvarsan. But even with the few cases now occurring one must not simply add up the cases reported like a bookkeeper (Mentberger); but must examine each case critically, if one wishes to progress in skill. The value of such an analysis is especially great in the cases in which young, robust patients have died in a short time after an intravenous injection and in which no great fault in technique can be discovered. Fruehwald recently reported such a case, stating that the fatality was unavoidable and calling these accidents "a sad accompaniment of salvarsan therapy." The author reviews the case to find out if it really was unavoidable.

An 18-year-old girl in the 6th month of pregnancy and in the early stage of syphilis was given 0.75 gm. neosalvarsan and reacted with headache, no fever. Five days later the same dose was given. Two days after the second injection she died of hæmorrhagic encephalitis. Fruehwald remarks that the dosage was not too large, for he has given similar doses to hundreds of cases without harm, and that Wechselmann's theory of inefficient kidneys does not apply to this case, for there was no sign of kidney irritation and the patient had had no previous mercury treatment. Wechselmann replies that pregnancy alone is sufficient reason for great care in dosage. He challenges the examination of kidney functioning, as the only statement in the report is that the urine was free from albumen after the second injection. This is no test of efficiency, for the excretion of water is often disturbed more than the albumen retaining power. He never gives

intravenous salvarsan to a pregnant case until he has tested the kidney efficiency with milk sugar, according to Schlayer. The KI test is not reliable, for it may be excreted more rapidly than normal in these very cases. The pregnant are often subnormal in their excretory ability, and should always be given small doses, cautiously increased. With no sign of disturbed excretion, 0.75 is too large a dose for pregnancy. He prefers 0.15 gm., increased to 0.45 gm., subcutaneously.

(*Ibidem*, Sept. 1, 1914, lxi, No. 35.)

EXPERIMENTAL RESEARCH ON THE EFFECT OF ROENTGENIZED SERUM ON THE BLOOD. J. GLAUBERMANN, p. 1867.

The research consisted of the injection of Roentgenized horse serum into rabbits and observation of the consequent changes in the morphology of the blood. In the controls, injected with normal horse serum, there appeared a marked leucocytosis with a normal percentage of lymphocytes, reaching its height in two to two and a half hours, and then gradually returning to normal. In the animals receiving Roentgenized serum the initial rise took place very early, within the first fifteen minutes, with marked lessening of the percentage of lymphocytes. Following this, the number of leucocytes diminished, reaching the lowest point in one and a half to two hours after injection, then rising slowly, so that 24 hours after the injection the leucocyte count was again higher than normal. All this time the lymphocytes were lessened proportionally.

Two factors are in evidence, the leucocytosis from the injection of a foreign serum and the counter effect of the radioactivity of the serum. When small doses, 2.0 or 4.0 cc., were given, the radioactivity produced a leucopenia after an initial leucocytosis. When the dose was larger, this effect was covered by the stronger action of the foreign serum. Repetition of the small dose on the second day gave a more marked reaction. Even a single dose caused a decrease in lymphocytes, lasting several days.

This reaction differs from the effect of direct radiation of the animal, in that the latter begins later and runs a slower course, producing leucocytosis after two hours and leucopenia beginning at the twelfth hour and lasting seven or eight days.

A NEW KIND OF INDUSTRIAL DISEASE IN THE MANUFACTURE OF CALCIUM NITRITE. F. KOELSCH, p. 1869.

Calcium nitrite is an artificial fertilizer made by combining calcium carbide with nitrogen derived from the air. Besides the danger from explosions of acetylene or phosphoric oxide and of burns from the lime, the workers in this industry suffer from peculiar symptoms after indulging in alcoholic drinks. After only a few swallows of beer or wine, the face, neck and shoulders become bluish red, the arms and trunk take on a brighter color, more like that of scarlatina. The most severe cases show this congestion of the skin as low as the buttocks and in front several finger breadths below the navel. In other cases it may reach only as low as the nipples and lower angles of the shoulder blades. The borders are jagged and on the face and trunk the whole area of skin is congested, no normal skin showing. The arms are seldom entirely involved, commonly only irregular patches in the axillæ and in the bend of the elbows.

Tears flow freely, conjunctivæ and oral mucosa are congested. On puncturing the ear for a blood specimen the blood flows freely. The reddened areas are not warmer than normal, the hands may be cold and the patients commonly shiver. Respiration is rapid and deep, with audible sighs and sometimes slight coughing, possibly from congestion in the air passages. The heart is rapid, 100 to 130. Blood pressure and morphology normal. Severe cases are somewhat dizzy and

during a first attack, trembling and jactitation are sometimes seen, which the author thinks may be psychic.

On vomiting, the attack promptly ends, while otherwise it lasts an hour or two, depending on the amount of alcohol taken.

(*Ibidem*, Sept. 8, 1914, lxi, No. 36.)

DIFFERENTIATION OF THE THREE GENERA, CLADOTHRIX, STREPTOTHRIX AND ACTINOMYCES. W. RULLMANN, p. 1899.

The name streptothrix is entirely misused by most authors. It was first applied by Corda in 1839 to a mould with tree-like, erect hyphæ, showing mostly sympodial branching and bearing pedunculated and sessile spores. To this group belong the common moulds *Aspergillus glaucus*, *Penicillium crustaceum*, etc. If this were known, we would not find this term applied so often to the thread bacteria (*Faden Pilzen*).

Cladotrix is characterized by mycelium with a sheath and showing pseudodichotomous branching. The connection between the individual cells composing the mycelium becomes loosened at a certain point and the cells slip past one another so that one or both of the cells grow out at the free end without entirely separating from the parent mycelium. In this way the twisted masses of mycelium appear branched and are easily confused with other fungi.

Actinomyces forms on solid media elevated, hard and more or less cerebriform colonies which adhere to the culture medium so that it is torn in trying to remove the colony. They form thin, long mycelium 0.6 μ wide and over 200 μ long. The various kinds of actinomyces are differentiated by their appearance on the various media. They often produce brilliant coloring. They stain well with the anilin dyes, especially with thin carbol-fuchsin. The Gram or Weigert fibrin methods are best for differentiation. Young cultures may show only straight unbranching forms which cannot be distinguished from ordinary fission fungi. Procreation takes place by gonidia formation, by division of the mycelial contents and by transverse division of the mycelia. The formation of gonidia and the resistance to drying and heat are important characteristics and the chalk like appearance of old cultures is also characteristic for nearly all varieties. The club shaped mycelial endings seen in the colonies in the tissues are swellings of the sheaths of the mycelia caused by a peculiar degeneration. They may also occur in the middle of the mycelial threads.

The position on the streptothrix question is supported by quotation of other authorities.

IS IT PERMISSIBLE TO USE SALVARSAN AS A PHOPHYLACTIC IN THE CASE OF SOFT ULCERS? H. MUELLER, p. 1905.

An answer to the criticism of E. Hoffmann upon the suggestion of Mueller to use the salvarsan abortive treatment of syphilis for all cases of venereal ulcer, thus making sure of the cases of syphilis which are impossible to diagnose before the Wassermann reaction appears. Mueller reiterates that cases do occur in which the most painstaking search for the spirochætæ in the secretion of the ulcer, in the juice of the glands and in the excised lesion is futile. The small dose of salvarsan necessary to abort syphilis before the appearance of the Wassermann reaction justifies the use of this treatment in all cases of venereal sore.

To support his claim that pure soft ulcer infection is not frequent in Mainz he gives the statistics for the garrison hospital there, during 15 months. Of 70 lesions, 60 showed spirochæta pallida and of the other 10, two later proved syphilitic. In St. Vincent's Hospital 77 chancres were seen and only 7 soft ulcers. In his private practice during 1913, he saw 25 primary lesions, two mixed

lesions and only two soft ulcers. To treat all these doubtful cases for syphilis Mueller holds as much better than to wait for the result of rabbit inoculation or the appearance of the Wassermann. He asks if it is not possible that cases occur in which the blood shows a positive reaction for so short a time that it is easily missed, and the first sign of syphilis is the appearance of late nervous lesions. If this is so a lumbar puncture should be made in every soft ulcer case. Mueller considers the abortive treatment simpler.

Hoffmann's suggestion that on the same principle all gonorrhœa cases should be given the abortive salvarsan treatment because an urethral chancre may be present, he dismisses with the answer that they are so rare that they cannot be compared to the soft ulcers, which are so commonly associated with syphilitic infection.

The objection that the method is unscientific and prevents a diagnosis being established is greatly outweighed by the possibility of preventing cases of nervous lues in which the diagnosis never was made before the nervous symptoms appeared.

(*Ibidem*, Sept. 15, 1914, lxi, No. 37.)

DIAGNOSTIC TRIAL OF NOGUCHI'S LUTIN. M. CLAUSZ, p. 1933.

The percentages of positive reactions obtained by the author in the various stages of syphilis are somewhat higher than many other observers have obtained, possibly due to the fact that the undiluted luetin was used instead of the one to three dilution originally recommended. In cases given salvarsan treatment only a short time before the test, the percentage of positive reactions was considerably less than in the untreated cases, while those who had received mercury gave a higher percentage of positives than the untreated cases. The author holds a positive reaction as diagnostic of lues, a negative as no evidence against it. Correct interpretation of some of the reactions requires some experience. The test is of value especially in the cases with negative Wassermann. Observation for at least two weeks is necessary before a negative reaction can be recorded.

(*Ibidem*, Sept. 22, 1914, lxi, No. 38.)

THE REPORTING OF VENEREAL DISEASE IS EASILY OBTAINABLE. L. MERK. p. 1971.

The reporting of all venereal infections among prisoners and charity patients is recommended. Private patients should be indicated by their date and place of birth instead of by name. This will avoid repetition of cases. In case the birth took place in a large city the ward number should be added. The records can be indexed by months instead of by names. He would classify the venereal cases as gonorrhœa, syphilis and venereal ulcers (*Helkosen*) which includes all soft ulcers and some doubtful syphilitic lesions of the primary, secondary and tertiary stages.

(*Ibidem*, Sept. 29, 1914, lxi, No. 39.)

TESTS WITH THE MEIOSTAGMIN REACTION (ASCOLI AND IZAR). N. BLUMENTHAL and E. FRAENKEL. p. 1996.

The chief value of the reaction, in the experience of the authors, is in the diagnosis of carcinoma of the intestinal tract, in which they had 92.5% of 40 cases give a positive reaction, and in pregnancy, in which 93.6% of 31 cases gave a positive reaction. They were impressed with the fact that the reaction appears early in pregnancy, while the normal woman between menstrual periods gives a negative. The value of the test in the diagnosis of carcinoma is lessened by the

occurrence of the positive reaction in cirrhosis of the liver and diabetes, as well as in 47% of tuberculosis and in many cases of chronic joint disease.

ON THE SIGNIFICANCE OF THE LEUCOCYTE INCLUSIONS DESCRIBED BY DOEHLE IN THE DIAGNOSIS OF SCARLATINA.
R. ISENSCHMID and W. SCHEMENSKY, p. 1997.

The Unna-Pappenheim staining method used and recommended by Doehle is preferred, because the inclusions are stained a brilliant red, differentiating them easily from the brownish violet nucleus and the pale pink protoplasm. It also stains the inclusions of scarlatina better than the other methods and better than it stains the inclusions of measles, diphtheria, etc. They conclude, from a series of 160 cases, half of them scarlatina, that the absence of the Doehle inclusions in the first few days of sickness rules out scarlatina.

Between scarlatina and diphtheria the absence of inclusions rules out scarlatina, their presence in large numbers makes scarlatina much more probable than diphtheria. A moderate number can be present in either disease.

In German measles they were not found. Between measles and scarlatina a large number of the inclusions speaks for the latter diagnosis. In four of five cases of croupous pneumonia they were plentiful.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Jan. 14, 1915, xli, No. 3.)

Abstracted by CLARENCE ALLEN BAER, M.D.

SYPHILITIC HEADACHE. J. HNATEK, p. 71.

There are various kinds of head pains caused by syphilis. Headache is often the only symptom in secondary syphilis, sometimes manifested as a steady, dull pain, at intervals becoming more intense, occasionally as pain over the entire head, similar to neuralgia. At times the pain might be caused by a thickening that irritates the periphery of the trigeminal nerve. Syphilitic osteo-periostitis of the major occipital nerve and rarely also an intercranial gumma or a circumscribed gummous meningitis might cause migraine. The author was able in some cases, to feel a gumma on the bone that caused local pain, although there was no pressure directly on a nerve root. Syphilitic changes in the blood vessels similar to sclerotic changes cause headaches. This is occasionally manifested by pain that extends from one ear to the other, in waves. A headache might be caused by the treatment, particularly by the use of blue ointment on either a neurasthenic or toxic basis.

CONCERNING THE ACTION AND ABSORPTION OF MERCURY PREPARATIONS, PARTICULARLY OF CONTRALUESIN. DOHRING, p. 74.

The value of various mercury preparations does not depend only on the quantity of mercury used, but on the chemical and physico-chemical properties of the preparation. Of insoluble mercury salts, calomel has the strongest spirillicide action. Next in order is mercury salicylate, and third is mercinol. Contraluesin is the least spirillicidal, in spite of its large dosage and its relatively rapid absorption.

TREATMENT OF ERYSIPELAS WITH ICHTHYOL. W. LÜTH, p. 78.

The author gives the method of application and reports two cases of erysipelas in which ichthyol was used.

RUSSKI JOORNAL KOJNIKH E VENERICHESKIKH BOLEZNEI.

(March, 1914, xxvii, No. 2.)

Abstracted by M. L. RAVITCH, M.D.

LEPROSY IN MINSK. ZAK, p. 158.

Zak claims that endemically leprosy is found in Kirgiz provinces, in the Baltic and other regions. A great many cases of syringomyelia are found in the province of Minsk. They are often confounded with leprosy. However, a genuine case of leprosy was encountered in Minsk by the author, in a Jewish woman, aged 45 years. This and similar other cases refute the idea that the Jewish race is immune to leprosy. The disease was contracted while the patient was living near the Black Sea for ten years. When she returned home she developed very severe headaches, pains and general neurasthenia. It was diagnosed by several prominent neurologists as a severe type of neurasthenia. The lancinating pains in the legs became unbearable and she soon afterward developed symptoms of leprosy. Bacteriological examination demonstrated the presence of Hansen's and Neisser's bacilli. Since a great many cases of leprosy are found in the Black Sea region, the author was convinced that the disease is contagious and can be transmitted to persons in various ways.

Zak claims that the nodular type is more contagious than the anæsthetic, and has a longer (three to five years) incubation period.

Animals very seldom, if ever, get a generalized infection. They may at times develop a local leproma. Only in one single instance have Melcher and Ortmann succeeded in affecting a general infection in a rabbit. Animals, as a rule, cannot be inoculated with bacillus lepræ, while Arning has succeeded in inoculating a prisoner with positive results. Coffin substantiated the same experience.

The primary source and the place of infection have not been found yet, though the mucous membrane of the nose is claimed by Koch and Sticker as the focus of infection, and the intestines, by Rolle and Black.

THE TREATMENT OF X-RAY DERMATITIS BY PFANNENSTILL'S METHOD. Bogrov, p. 160.

Bogrov repeats Unna's dictum, "Roentgen dermatitis belongs to the number of affections in which prophylaxis is all, while therapy is nil." He claims that one very seldom now sees cases of X-ray dermatitis with its terrible sequelæ in persons using the X-ray and in persons on whom the X-ray has been used. The better understanding of X-rays and the various precautions used, have greatly reduced the dangers of X-ray burns to both the radiologist and patient. Analysing the statistics of Freund, Hahn, Schiff, Mueller, de Nobele, Nogier, Pagenstecher and others, he finds that with the improved method and new appliances the percentage of burns has diminished to a very great extent. High dosage and over-exposure are the chief factors in the production of X-ray burns.

Reactive appearances of the skin to X-rays are, according to the classification of Holzknecht, Keimböck and Gocht divided into four degrees:

1st. Consists in epithelization without visible inflammatory changes but with usual slight infiltration of the skin and scaling.

2nd. Erythema of rose-red color.

3rd. Exudative erosive dermatitis, sharp epithelization, which is particularly persistent in the central part; more or less atrophy of the skin and nails, deeper pigmentation, teleangiectatic spots and alopecia.

4th. The resistant inflammatory process in the centre leads to the most

serious degree—formation of an X-ray ulcer with its necrotic and degenerative tissues, thickening and obliteration of the blood vessels, and other changes.

Citing the different palliative measures suggested by the most prominent radiologists for the different degrees of X-ray dermatitis, Bogrov was very much impressed with the method of Pfannenstill in treating tuberculosis of the mucous membrane by driving into the tissues iodine *in statu nascendi*. The patient is given, daily, three grams of sodium iodide divided into six parts, and locally the sore is covered with a cotton tampon, previously saturated with a solution of peroxide of hydrogen with admixture of acetic acid. This method was found very effective in varicose ulcers, gangrænous sores and streptococcic infection.

The technique used by Bogrov in his case is very simple. He first finds out whether the patient has any idiosyncrasy to iodine. When such is not the case, he administers 5% solution of sodium iodide with ascending doses, until the patient is able to take six grams daily. Then he begins to apply 3% solution of hydrogen peroxide diluted in 10% perhydrol-Merck, containing 1% acetic acid solution. The borders of the ulcer are anointed with vaseline or olive oil and covered with wax paper for protection from the irritating action of hydrogen peroxide and iodine. The sore is covered every five or ten minutes with gauze saturated with a solution of peroxide of hydrogen. The patient is instructed to make the applications herself. At night the ulcer was covered with carbolized oil. The progress of healing was remarkably fast. He recommends the method of Pfannenstill's as the very best.

THERAPY OF RHINOPHYMA BY ELECTRICITY. BOROLIER, p. 181.

Lasski, commenting on Borolier's article on the treatment of rhinophyma, claims that the surgical treatment of the disease is rather dangerous on account of the loss of blood and slow healing. By using the electric method of treatment all drawbacks can be avoided. The technique is as follows: three platinum needles are inserted parallel to each other in the affected parts. The middle needle is connected with a positive pole, the two side ones with a negative. If the subject is too sensitive, a little cocain or novacain is previously injected. The strength of the current is gradually increased to 40 milliamperes; the séance can be considered finished when the treated area takes on a grayish color. How much time it consumes to accomplish a cure, we cannot tell; it depends upon the quality of the tissue that has to be destroyed. At the end of the séance the strength of the current should be gradually decreased to zero. Needles with negative poles are easily taken out, while the positive ones are rather hard to remove. The destroyed tissue assumes, the next day, a dark color which disappears, and then the séance may be repeated. Two treatments are claimed to be sufficient to accomplish a cure.

A CASE OF DERMATITIS EXFOLIATIVA CHRONICA. MZAREOULOV, p. 184.

Troitzki states that Mzareoulov, adhering to the classification of erythrodermia according to Brocq and Darier, describes his own case of chronic erythrodermia. The patient, an Armenian, complained of considerable pruritus, chilly sensation and considerable scaling of the skin. The color of the skin varied from dark brown to light brown, and bluish dark, and the skin, in general, simulated that of a corpse. The surface was smooth, except on the palms of the hands. The skin was less dense over the extensor and more on the flexor surfaces. In a good many places it was covered with grayish-white cigarette-paper scales. They were easily detached; did not leave any moist or bleeding surface. The scaling was very profuse. The scales on the scalp were fat, large and numerous, and the

hair on that account looked as if it were covered with powder. Degeneration of the collagen substance of the papillæ and vessel walls and thrombi in the vessels were found. The sweat and sebaceous glands were atrophied. The Wassermann reaction was positive; the patient had choroidoscleritis. Though the patient had no rise of temperature, he was getting weaker. The condition lasted for over two years.

HITHERTO UNKNOWN DERMATOSIS: PITYRIASIS CIRCINATA.
TOYAMA, p. 185.

Bogrov says that Toyama observed in Japan an affection of the skin in the form of round, slightly scaly, non-pruritic, light brown spots, from $\frac{1}{2}$ to 10 to 20 centimetres in diameter, usually located upon the trunk. From pityriasis versicolor and erythrasma it can be distinguished by the absence of fungus in the scales and in the sections of the skin. Culture and inoculation were negative. Toyama still thinks that the disease may be of parasitic origin. Women are more affected with it than men. Twenty-nine cases of this disease are reported in the Japanese medical literature.

THREE CASES OF PARAPSORIASIS. DAGAEV, p. 186.

Troitzki says that Dagaev is following the classification and terminology of Brocq and quotes three cases (one man and two women) of disseminated parapsoriasis. The change in the skin is noticeable all over the body, the face included. The skin is covered with spots of pale pink, changing to yellow-red color, with very thin, glistening scales. The scaling is not the same everywhere. In some places it is very abundant, while in some it is absent. Blood exudation after the detachment of scales is not noticeable. Histological findings of all the three cases gave an appearance of chronic inflammation and parakeratosis. In the three cases Dagaev found no history of hereditary or acquired tuberculosis, though in one, von Pirquet's reaction gave a positive result. Since the skin of the patient was of a bronze color, Dagaev is ready to connect parapsoriasis with the diseases of the adrenals. In the second and third cases the author observed atrophy of the testicles and retroflexio uteri. The absence of secretion of these organs may have had a great deal to do with the appearance of this disease. Therapy failed in all of the cases.

RUSSKOE MEDIZINSKOE OBOZRENIÉ.

(February, 1914, xxx, No. 2.)

Abstracted by M. L. RAVITCH, M.D.

A CASE OF DERMATOPOLYMYOSITIS SUBACUTA. I. M. GROSMAN,
p. 115.

Grosman cites a very interesting case of dermatopolymyositis subacuta. The disease was first observed by Wagner, of Dorpat, in 1880, but as the latter was not sure of the true pathology of it, he was disinclined to describe the disease. In 1887, he observed two more cases, and named the disease polymyositis acuta. Also in 1887, Herp and Unverricht observed and described the same disease, calling it dermatomyositis on account of the similarity of the inflammatory process of the muscles and skin. Several other cases were reported afterward, but the real description of the classical picture of this disease, according to Heinrich Lorenz, was not brought forward until 1900. Although the ætiology and prognosis of the disease are yet obscure, yet its characteristics are uniform as was observed by Herp, Unverricht, Wagner, Strumpell, Senator and others. Lowenfeld claims

that in dermatomyositis almost all the muscular system is involved, together with the cutaneous and subcutaneous tissue. In clinical appearance, it at times resembles erysipelas, then again roseola, urticaria and purpura. Sometimes it may assume the form of giant urticaria with grave tongue and throat symptoms. The mucous membranes often become involved, and there may appear angina, stomatitis, bronchitis and gastroenteritis, and even an enlarged spleen. When both the mucous membranes and skin are involved, Oppenheim calls the condition dermatomucosamyositis. The condition may last from 2 to 4 days to 2½ years. If the organs of deglutition and respiration are not involved, the patient may recover.

This disease may follow other diseases, such as diabetes, nephritis and whooping-cough, and then again it may be *sui generis*. It simulates trichinosis, polyneuritis acuta and beri-beri, but the muscle and skin involvement are more pronounced in dermatopolymyositis. Senator attributed the cause of this affection to gastrointestinal toxæmia, but later he acknowledged his mistake. Pfeiffer thought that this disease was caused by invasion of gregarines, but this was afterward refuted. No doubt that the disease is due to an infection, but the organism has not yet been found. Waetzold and Bauer claim that it is due to the *Staphylococcus pyogenes*. Martitti found a micrococcus similar to the *Staphylococcus pyogenes aureus*. A culture of this organism was injected into a rabbit and caused a dermatopolymyositis, but this was not substantiated by other investigators.

THE PRESENT CONCEPTION OF THE ÆTIOLOGY OF LYMPHO-GRANULOMATOSIS. HIRSCHFELD, p. 121.

Schereshevski is of the opinion that the ætiology of lymphogranulomatosis (Sternberg's and Paltauf's disease) is entirely different from that of Hodgkin's disease, and that its true nature has not been explained. Sternberg, who held this disease to be *sui generis* tuberculosis of the lymph apparatus, later changed his views and said that it might be an attenuated form of tuberculosis of the lymph glands. From experimental data collected by the author in an attempt to solve the ætiology of lymphogranulomatosis, no definite conclusion could be formed as to its tuberculous character.

SPOROTRICHOSIS OF THE LUNGS AND BONES. LAURENT, p. 126.

Nazimov quotes Laurent's eight cases of sporotrichosis. One of them is that of a peasant woman who developed abscesses all over the body. Bacteriological examinations of the pus verified the diagnosis of sporotrichosis. The abscesses on one foot and in the lungs were of a severe type. She had moist râles in the lungs, similar to that of tuberculosis. Expectoration was rather profuse; no bacilli of tuberculosis were found in the sputum. Under the administration of potassium iodide and local applications of iodine, the patient made a rapid recovery. The sporotrichotic lesions of the skin, bone and lungs began to disappear after the first week of iodine administration. Only one similar case of skin, bone and lung sporotrichosis has been reported in medical literature, and that was Seguin's case.

ARCHIVES OF INTERNAL MEDICINE.

(January, 1915, xv, No. 1.)

Abstracted by R. C. JAMIESON, M.D.

EFFECT OF INTRAVENOUS AND INTRASPINAL TREATMENTS ON CEREBROSPINAL SYPHILIS. GEORGE DRAPER, p. 16.

Draper's cases were followed systematically, the results being carefully noted, and were classified according to pain and psychic disturbance. The Swift-Ellis

technique was followed in most cases, but in some the serum was salvarsanized *in vitro*.

He found that all classes of cases showed improvement, the clinical improvement, however, not being equalled by serologic or cytologic changes. Spinal nerve pain was lessened, ataxia improved and psychic disturbances decreased. In some cases untoward symptoms developed, but he believes that in spite of some of these unfavorable results this method of treatment should be thoroughly investigated, stating, however, that salvarsan, in the spinal injection, should never be more than .0005 gm., and should not be repeated more than two or three times. This limitation does not hold good for spinal injections of serum salvarsanized *in vivo*. He also warns against discontinuing treatment, even though the patient seems to be entirely well, until the laboratory tests are negative.

STATISTICS OF PELLAGRA IN SPARTANBURG COUNTY, SOUTH CAROLINA, INCLUDING GEOGRAPHICAL DISTRIBUTION OF THE DISEASE AND ITS RELATION TO RACE, AGE, SEX AND OCCUPATION. J. F. SILER, P. E. GARRISON, W. J. McNEAL, p. 98.

The authors found a higher mortality in the larger centres of population, especially in the mill villages, the whites being affected three times as much as the colored race. Pellagra was also most often found in women between 20 and 44, children between 2 and 10, and old people of both sexes, this frequency, however, being ascribed to the fact that subjects of those ages would be more likely to come into intimate contact with each other and with pellagrins in the home life, and also to a difference in physiological resistance. Occupation has an important bearing on the prevalence of the disease, but has no direct relation to the morbidity.

FURTHER OBSERVATIONS ON THE BLOOD COUNT IN PELLAGRA. O. S. HILLMAN and P. A. SCHULE, p. 147.

A lymphocytosis was found in all cases, but in some non-pellagrins in the same district a moderate, relative lymphocytosis was found also.

They found no relation between the degree of lymphocytosis and the severity or chronicity of the attack. An occasional eosinophilia is found, but is not characteristic.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(February, 1915, cxlix, No. 2.)

Abstracted by R. C. JAMIESON, M.D.

NEW USES OF SPECIFIC SKIN TESTS IN CERTAIN OF THE INFECTIOUS DISEASES. F. P. GAY, p. 157.

This article discusses the value of the tuberculin reaction in the von Pirquet and Calmette tests and reviews the work done in differentiating tuberculosis from streptothrix infections by means of streptothrix cultures used in the same manner as tuberculin in the von Pirquet reaction. Reference is also made to the intradermal test with diphtheria toxine and to the test with typhoid toxine for antibodies.

A REPORT OF THE TREATMENT OF CEREBROSPINAL SYPHILIS BY INTRASPINOUS INJECTIONS OF SALVARSANIZED SERUM. A. G. RYTINA and C. C. W. JUDD, p. 247.

Rytina and Judd followed the Swift and Ellis method in their eighteen cases, who received in all twenty-nine injections. In all the later injections the serum

was used undiluted with saline, thus reducing the amount of fluid injected into the subdural space and minimizing pressure on the cord. All cases were tested for globulin content, cell count, blood Wassermann and cerebrospinal fluid Wassermann. They consider this method quite safe under proper precautions and also believe it is more advantageous than the older methods of treatment. They state, however, that clinical cure may be obtained before negative findings are demonstrated in the cerebrospinal fluid, but that treatment should be insisted on until the fluid shows no abnormal condition. They can make no definite statement as to the permanency of the improvement noted.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(Dec. 12, 1914, lxiii, No. 24.)

Abstracted by W. M. H. BAUGHMAN, M.D.

TRICHOTILLOMANIA. RICHARD L. SUTTON, p. 2126.

Case reports of trichotillomania and dermatothlasia.

DERMATOLYSIS, WITH REPORT OF TWO CASES. WILLIAM W. CADBURY, p. 2128.

(*Ibidem*, Dec. 19, 1914, lxiii, No. 25.)

THE INTRADURAL ADMINISTRATION OF MERCURIALIZED SERUM IN THE TREATMENT OF CEREBROSPINAL SYPHILIS. C. M. BYRNES, p. 2182.

Byrnes, thinking that more effective action might be obtained in cases of cerebrospinal syphilis if a larger amount of some specific drug were introduced into the subdural space, has returned to the use of mercury. To overcome the cause of the adverse symptoms exhibited by this drug, attributed to its coagulating effect upon the protein matter of serum, he combines a mercurial salt with human blood serum, producing a mercury albuminate which is readily soluble in an excess of serum. The technique used is similar to that of Swift and Ellis, except that no drug is administered before withdrawing the blood. Clinically, the results are promising, most marked improvement being shown in cases of tabes and meningomyelitis, and in several cases of general paresis. The reaction is usually mild. The cellular elements of the spinal fluid in all cases show a marked decrease, the globulin is generally diminished, but the Wassermann reaction is less readily affected.

AUTOGENOUS SERUM IN THE TREATMENT OF PSORIASIS. HOWARD FOX, p. 2190.

Twenty-eight cases of psoriasis treated with autogenous serum cleared up more quickly and more extensively under external applications of weak chrysarobin than when this drug is used alone. The serum injections seem to cause changes in the human organism which enable this drug to produce better results. A violent urticaria in one case is the only bad result noted. The serum alone produced no apparent change in the lesions. The technique is relatively simple.

(*Ibidem*, Dec. 26, 1914, lxiii, No. 26.)

OBSERVATIONS OF THE RESULTS OF SEVEN MONTHS' EXPERIENCE IN THE TREATMENT OF SYPHILIS. K. NELSON and E. F. HAINES, p. 2277.

Comparing the results obtained by the treatment of a series of cases with intravenous injections of neosalvarsan and intramuscular injections of mercury,

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and those obtained with salvarsan and mercury, the authors consider that the further use of neosalvarsan is unwarranted. No reactions followed the use of salvarsan; nearly twice as many gave negative serum reactions after the treatment, the reactions becoming negative in a shorter period of time; a smaller number of intravenous injections were necessary to produce these results. As with neosalvarsan, the stronger the serum reaction the fewer cases that became negative.

A SIMPLIFIED METHOD FOR THE INTRAMENINGEAL INJECTION OF NEOSALVARSAN IN SYPHILIS OF THE NERVOUS SYSTEM. L. M. WARFIELD. p. 2287.

(*Ibidem*, Jan. 2, 1915, lxiii, No. 1.)

ANARTHRIA DUE TO SYPHILIS. REPORT OF TWO CASES. C. B. GRAIG, p. 51.

(*Ibidem*, Jan. 9, 1915, lxiv, No. 2.)

THE AMINO-ACID CONTENT OF THE BLOOD AND SPINAL FLUID OF SYPHILITIC AND NON-SYPHILITIC INDIVIDUALS. A. W. M. ELLIS, G. E. CULLEN and D. D. VAN SYLKE, p. 126.

The authors, endeavoring to confirm the work of other investigators on the variation of the amino-acid content of the blood and spinal fluid as a diagnostic procedure, were unable to verify their findings, and conclude that the determination of the amino-acid content is of no value in the diagnosis of syphilis.

(*Ibidem*, Jan. 16, 1915, lxiv, No. 3.)

VARIOUS TYPES OF LUES. A CLINICAL AND LABORATORY STUDY. THE ABELIN REACTION. DIRECT SUBDURAL INJECTIONS. W. E. ROBERTSON and J. V. KLAUDER, p. 199.

Clinically only is syphilis of the nervous system a late phase of this disease, Dreyfus having found that 80 per cent. of late primary and early secondary cases show distinctive pathological changes in the spinal fluid. A general septicæmia occurs within a few days after infection, the nervous structures and coverings becoming involved simultaneously; later, a special predilection is shown for some particular organ or tissue. All stages of the disease are potentially infective, though the possibility of transmission becomes less in direct proportion to the elapsed time since the original infection.

A chancre is only possible when cutaneous or mucous membrane infection occurs, though syphilis may be contracted without the development of a chancre. Relapses after salvarsan therapy resemble the clinical condition present when the patient first received treatment; following mercury, the relapse assumes a more advanced type of lesion.

With few exceptions, the most constant and fairly uniform stage is the septicæmic or secondary period. Beyond this, the types are designated according to the organ or tissue involved, each type having many varieties. Serologically, no classification is possible until a standard technique has been developed. The authors present their serological findings in various types of cerebrospinal lues, using a certain technique. Laboratory findings and the failure to make satisfactory serological or clinical impress on the types of lues of the nervous system by former methods of treatment, have led to the taking up of subdural work. The direct method of injection was found to be too irritating. Tabes, if recognized early, may prove amenable to intravenous injections together with mercury

and iodides by mouth; in later cases, the value of the Swift and Ellis and direct methods are still *sub judice*.

(*Ibidem*, Jan. 23, 1915, lxiv, No. 4.)

SARCOMA OF THE TONGUE. A STUDY OF THE PUBLISHED CASES WITH REPORTS OF TWO NEW CASES. W. T. COUGHLIN, p. 291.

The maximum of frequency occurs during the fourth decade, the cases being proportionately distributed between the two sexes. Nationality and occupation apparently play no part in its aetiology, though injury may in a very few cases.

The most common location was on the right side and toward the base. The rate of growth varied greatly, patients most frequently applying for relief within ten months after the first appearance of the growth, the extremes being six weeks and twenty-two years. A pedicle or stalk was present in six instances; in one, the growth could be traced through the pedicle into the tongue; in another, recurrence occurred; correctness of the diagnosis of the others is doubtful. In size, they varied from small pea-size to that of an orange, while one weighed 400 gms. The color of the mucous membrane seldom varies from the normal; it may be thin, show dilated veins, or show abrasions or ulcerations which bleed easily. Those growing behind the circumvallate papillæ may present a papillary surface. Generally the mucous membrane is smooth, and if the tumor is on the dorsum of the tongue, firmly attached; if on the under surface of the tongue, it is usually freely movable at first. Ulceration is commonly seen, especially in advanced cases or large growths. The question of glandular involvement was mentioned in thirty-seven cases; in eighteen the glands were enlarged. In four of these no glandular enlargement was noticed until after operation; two of these proved to be glandular metastases. Twenty-two cases were of the round-cell type, nineteen of the spindle-cell type, eight were mixed round and spindle cells, while one of these also contained some cartilage cells, and in one was found a calcifying nodule. Five were encapsulated or partly encapsulated.

Among the symptoms noted are those as if a foreign body were present, interference with speech or deglutition, bleeding, pain or soreness, a tickling and burning sensation, dyspnoea, fætor, interference with closure of mouth or with protrusion of tongue, both loss of weight and anæmia being usually associated with dysphagia. The diagnosis may most readily be confused with chronic interstitial glossitis, tuberculosis, lues, actinomycosis, or chronic abscess.

Of those treated by radical operation, one had lived as long as fourteen years without recurrence; three of those who had had a local operation performed were known to have been well more than two years. Other methods of treatment, such as Coley's fluid and the Roentgen ray, were used in some cases.

The first case of the author's was of the mixed round and spindle-cell type, and contained some cartilage cells. This case did not return after the stitches were removed. The second case was also of the mixed round (small) and spindle cells. Coley's fluid and the Roentgen ray have been used subsequent to operation. The patient's general condition has steadily improved and no recurrence has been noted during about one and a half years after the operation.

AN INSTANCE OF PULMONARY SYPHILIS CLOSELY SIMULATING TUBERCULOSIS. G. D. CULVER, p. 335.

(*Ibidem*, Jan. 30, 1915, lxiv, No. 5.)

THE SYMPTOMATOLOGY AND TREATMENT OF SEBORRHŒIC KERATOSSES. R. L. SUTTON, p. 403.

Seborrhæic keratoses are an important ætiological factor in carcinoma of the skin, most frequently found on a harsh, dry skin with a long-standing dry

seborrhœa. Long-continued exposure to strong sunlight and sudden atmospheric changes, and old age, being contributory factors.

Clinically, the condition is easily recognizable. Pathologically, the descriptions vary greatly. The author distinguishes three types: a keratoid type, a nævoid type, and an acanthoid or verrucous type. The sebaceous glands were practically normal in all three classes, though all contained considerable quantities of free fat. The keratoid type was the most dangerous, nine of the nineteen cases showing carcinomatous changes.

If prophylactic treatment is not effective, removal of the superficial layers with a keratolytic agent, followed by freezing with carbon dioxide snow, is the method of choice. Where signs of malignancy are shown, excision should be employed, or the Roentgen ray or radium may be effective.

SYPHILITIC ULCER OF THE STOMACH. REPORT OF A CASE EXAMINED HISTOLOGICALLY. H. L. McNEIL, p. 430.

CANADIAN MEDICAL ASSOCIATION JOURNAL.

(May, 1914, iv, No. 5.)

Abstracted by CHARLES T. SHARPE, M.D.

ON THE DESTRUCTION OF SEBACEOUS GLANDS, SWEAT GLANDS, AND HAIR FOLLICLES, AND THE DISEASES THEREBY CURED. A. HOWARD PIRIE, p. 406.

In a very interesting article, the author outlines the use of the X-ray in the treatment of sycosis, acne vulgaris, tinea tonsurans, rodent ulcer, hyperidrosis, hypertrichosis and keloid. The diseases of the skin most amenable to X-ray treatment are those in which the disease thrives owing to the presence of the more active cells in the skin, viz., the sweat glands, the hair follicles, and the sebaceous follicles, and of normal, quickly growing cells, as in rodent ulcer. The action of the X-ray may be compared to that of a blow. A small dose is like a tap which calls forth reaction and acts as a stimulant. The next is the knock-out blow, which causes temporary stunning of the cells and temporary cessation of growth. The next is practical destruction, some cells escaping death, while others are killed. Finally, there is total destruction of all cells.

X-rays, in small quantity, stimulate all the cells of the skin, and this causes increased activity of active cells, thus causing increased growth of hair and increase in perspiration. In treating keloid this stimulating action of the X-rays is made use of. When the rays fall on the hair follicles in larger quantity the knock-out blow is delivered. The hair ceases to grow for two months; it is shed, and new hair grows, because the hair follicle was stunned only, and not killed. This is the treatment carried out for ringworm, sycosis and alopecia areata. In this treatment a temporary change is brought about without causing permanent destruction.

The third degree is partial destruction, in which some cells are killed and others are not. As in fractional sterilization by heat, so with the skin and X-rays, by delivering a large dose once every three weeks, certain cells are killed while others escape. This principle is used to cure hyperidrosis, hypertrichosis, acne vulgaris, bromidrosis and rodent ulcer. If we attempted to cure these diseases by one large dose we would succeed, but at the same time we should be risking total destruction of the skin.

The fourth degree, total destruction by X-rays, the author has used on a few special occasions only. In a tumor, probably epithelioma, of the point of

the nose, which would have required a disfiguring plastic operation, very large doses of X-rays were applied, the tumor cells were killed outright, and the surrounding cells of the skin grew in and covered over the site of the tumor.

Pirie uses four methods of measuring the dosage and, when all agree, feels perfectly sure that the desired dose has been given. The four methods are:

1. Sabouraud's method;
2. A modification of Sabouraud's method;
3. Kienböck's method;
4. Measurement of the energy passing through the X-ray tube.

One must make himself master of the first method. Without it he gropes in the dark, and like a blind man he may arrive safely at his destination. Although the method is simple, it is very necessary to learn it from watching an experienced worker carrying it out, and not from books.

As to dosage, he advocates in:

1. Sycosis; 10X, one application to the diseased area.
2. Acne vulgaris; 3X, on three consecutive days, wait three weeks and repeat. Continue this until six treatments are given.
3. Tinea tonsurans; 10X to the whole scalp, one treatment only.
4. Rodent ulcer; 10X, once a month, until the ulcer is healed, then once a month for six or twelve more treatments, or 30X or 40X for one treatment only.
5. Hyperidrosis; 10X, once a month, for four months. Then 8X for two more treatments.
6. Hypertrichosis; as for hyperidrosis.
7. Keloid; 3X, once a week, for six to twelve months.

OBITUARY.

EDUARD JACOBI.

Dr. Eduard Jacobi, Professor of Dermatology and Syphilis in the University of Freiburg in Breisgau, Germany, was born in Liegnitz on January 20th, 1862. He was educated in the Universities of Würzburg, Berlin, Halle and Freiburg. He made some of his medical studies in Breslau and received his medical degree in 1886. For a time he was one of the assistants to Professor Neisser, but was soon called to Freiburg in Breisgau to take charge of the dermatological clinic. He was appointed "Privat Docent" in dermatology and syphilis in 1890, and in 1895 became Extraordinary Professor and Director of the Dermatological Clinic and Polyclinic, and of the Finsen Institute. He was instrumental in establishing the last, and by his high qualities as a teacher attracted many students to the University and built up a large clinic.

He was a skilled organizer and to him was entrusted the work of the regulation and treatment of venereal diseases in a large section of southern Germany.

As an author his reputation is founded on his "Atlas of Skin Diseases" which was published in 1903, the fifth edition of which appeared in 1913. Under the editorship of Dr. Pringle, an English edition of this atlas was published in London. It won and deserved a great success, and is owned and valued by a host of students and physicians. In collaboration with Professor Neisser he published "Ikonographia Dermatologica," the first number of which appeared in 1906. This publication is most highly valued by all dermatologists. Besides these books he issued several valuable papers on dermatological subjects.

When the war now raging in Europe broke out in August, 1914, Dr. Jacobi

at once joined the colors. He contracted a severe cold that developed into his illness and died on January 9th, 1915, in the fifty-third year of his life. He was unmarried.

G. T. J.

WILLIAM FLEMING BREAKEY.

Died, Dr. William Fleming Breakey, at his home in Ann Arbor, Michigan, February 13th, 1915.

William Fleming Breakey was born on a farm in the township of Bethel, Sullivan County, New York, September 10, 1835, his parents being Isaiah Breakey and Polly Ann (Lyon) Breakey. His father came to this country with his parents from the north of Ireland, when he was twenty years of age. They were pioneers in a country where opportunities for a preliminary education were rare, but his father, a man of hard common sense, was well educated and taught school for a time. Dr. Breakey had excellent home training and taught school for some years previous to entering upon the study of medicine. He commenced his medical studies in 1856, attending the Albany Medical College for one year. He completed his course in the department of Medicine and Surgery of the University of Michigan, securing his medical degree in 1859 and commenced private practice at Whitmore Lake, Michigan. After the battle of Shiloh, in 1862, when, owing to the lack of medical officers, the Governor of the state called for volunteer surgeons to care for the wounded, Dr. Breakey promptly responded. June 18th, 1862, he was commissioned first assistant surgeon of the 16th Michigan Volunteer Infantry, reporting for duty at Harrison Landing, James River. During September and October of that year he was on duty at the Officers' Hospital at Washington, D. C. Shortly after the second battle of Bull Run his health failed but he remained in charge of invalids and recruits at Arlington, Va., whence he was transferred, in January, 1863, for duty to the hospital at Alexandria, Va. Rejoining his regiment in April at Rappahannock Station, Va., he was first detailed as chief medical officer of the 20th Maine Volunteer Infantry and later took charge of a division smallpox hospital.

Later he served at Gettysburg and it was here that he received an injury to the left femur which was followed by necrosis and was a constant source of distress and ill health until his death.

His first official connection with the University of Michigan was that of Professor of Surgery, and associate demonstrator of Anatomy, during the years 1868-69. He became interested in diseases of the skin and it was due to his untiring efforts that a clinic for diseases of the skin was established in the Medical Department, and he was appointed Lecturer on Dermatology and Syphilology, in which capacity he served until 1905, when he was made Clinical Professor of these branches. On account of failing health he was obliged to resign in 1912. In spite of his infirmity he led an active and useful life. For thirty years he served as examining surgeon on the United States Board of Pensions and for ten years he was health officer of Ann Arbor. He was a member of the American Medical Association, the American Dermatological Association, Michigan State Medical Society, of which he was President in 1904, the Northern Tri-State Medical Society, and the Washtenaw County Medical Society. He took an active interest in city affairs and was a Director of one of the local banks. He was the author of many Medical and Scientific articles, among the most noteworthy of which were: "The Conservative Value of the Artificial Induction of Premature Labor," Michigan State Medical Society, 1877; "Ulceration Perforation of the Stomach," 1887; "Some Medical Legal Questions of Smallpox," 1889; "Mutual Obligations and Responsibilities of the Physician and the

People in Promoting Medical Science," 1890; "Needs for the Better Study of Diseases of the Skin," 1901; "The Light Cure in Lupus," *Physician and Surgeon*, 1901; "A Case of Mycosis Fungoides," *Jour. Cutan. and G. U. Dis.*, 1902; "Conditions that Influence the Use of the X-Ray in the Treatment of Epitheliomata and Other Skin Diseases," Clinical Society, Univ. Mich., 1903; "Parasitic Sycosis Communicated from Cattle," *Jour. Cutan. Dis.*

His early training in the school of experience, his long continued service of the Pension Board, his personal suffering and studious habits made him a physician in the broadest sense. His was a most lovable disposition. He never harshly criticized or spoke ill of others, because he never thought ill of them. If he could not honestly say pleasant things he said nothing. His kindly sympathetic manner won the confidence of his patients. He had a deliberate way of listening to all a patient had to say and was never too hurried to consider a problem from all sides.

Towards the last he was rendered intensely uncomfortable by complications, but with all, he was cheery and uncomplaining. He was an admirable example of an honest, upright, Christian gentleman.

C. B. G. de H.
C. D.

BOOK REVIEWS.

LEHRBUCH DER DERMATOLOGIE, FÜR ÄRZTE UND STUDIERENDE. Von Dr. K. DOHI, Professor und Chef der Universitätsklinik und Poliklinik für Dermatologie und Urologie in Tokyo. Band I u. II mit 43 Tafeln und 341 Textabbildungen. Verlag von Asakaya, Tokyo, 1914 (price, 8 yen). Text in Japanese with German and Japanese titles on the cover.

The work, containing 819 pages, embodies two volumes with 31 chapters on general (154 pages) and special (665 pages) dermatology. One of the most striking features of this work is the profuse use of excellent colored plates and text figures illustrating not only the clinical, but also the microbiological as well as histological aspect of the diseases of skin, combined with the fact that they are exclusively from the collections of Dohi's clinic. In this respect the author is to be congratulated, as this may be regarded as one of the pioneer works in Japan, demonstrating a complete assimilation of Western medical science without the aid of Western material. In the general dermatology is found a brief outline of the history of modern dermatology, anatomy, physiology, pathology and general principles of the treatment of skin diseases. In the special part, each form of skin affection is treated in uniform style, giving synonyms, definitions, symptoms, localization, course, ætiology, pathological anatomy, diagnosis, differential diagnosis, prognosis and treatment, to which are appended references in different languages, including the Japanese literature. The descriptions are concise and clear, without neglecting essential points. At the end of the book is a brief account of the development of dermatology in Japan, tracing the first translations of the Western treatise on the subject of Plenck's *Compendium institutionum chirurgicum* and *Doctorina de morbis venereis*, by a Japanese physician, Sugita (1776-79).

Nothing important and recent in the domain of dermatology seems to have escaped the author's attention, except that in the chapter on syphilis it might not have been disadvantageous for the work to have made some kind of reference to the luetin reaction or to the relation of *Treponema pallidum* to so-called para-syphilis.

During the early part of the nineteenth century several German books were translated, while still later English and American works found their way to Japan. Since the establishment of the Imperial University in 1871, the Medical Department had also a division of Dermatology and Urology with an independent chair. But after a short period the chair of Dermatology was transferred to the division of Surgery, from which it was again separated as an independent division in 1898, when the author of the present book received the appointment to the Chair of Dermatology and Urology. As will be seen, the combination of Dermatology and Urology is not common in other countries.

The explanations of the colored plates are given in German, as well as in Japanese, thus making them accessible to foreign dermatologists interested in the study of some of the peculiarities of skin diseases in different races or countries. The Japanese students and practitioners will find the book most valuable for reference.

H. N.

DISEASES OF THE SKIN. By JAMES H. SEQUEIRA, M.D., London, F.R.C.P., Lond., F.R.C.S., Eng. With 48 plates in color, and 258 figures in the text. 2d Edition. *P. Blakiston, Son & Co.*, Philadelphia, 1915. Price, \$8.

The first edition of this book appeared in 1911. It has been rewritten and enlarged. Four new colored plates and sixty half-tones have been added. When Job exclaimed: "Oh, that mine adversary had written a book," he probably longed for an opportunity for pitching into him. As we lay down this book, we are tempted to exclaim: "Oh, that Dr. Sequeira had written a TEXT BOOK;" but not for Job's reason, but for the desire to praise it. As it is, our author has endeavored to build a text book about the skeleton of notes for a course of lectures. This has resulted in an unbalanced work, whose great merit is that it presents the personal opinions of an experienced and practical dermatologist. In some places several pages are given to a full and satisfactory discussion of a subject, while in other places other subjects are dismissed in a few lines.

The author is well informed on all the newer methods of treatment and diagnosis, and the technique of X-rays, refrigeration, salvarsan injections, the Wassermann reaction, etc., are well and fully described. These matters evidently interest him, and as a clinical teacher he naturally would dilate upon them.

As in the first edition, the author endeavors to classify dermatoses on an aetiological basis. If it were only possible to do this it would be excellent. But we do not know enough as yet to do it. Our author has found his classification useful in his teaching, but is compelled to group not a few diseases on an anatomical basis and as being of unknown origin.

The color plates are by the three-color process and taken directly from the patients. In the present state of our skill, color pictures are most often disappointing. So here. To our eyes some of these show colors that are never seen. Of the half-tones, we cannot speak too highly. They are most admirable and truly illustrative. They are in advance of any we have heretofore seen in English books, and as good as we produce in this country.

That the second edition has been called for in so short a time indicates the appreciation of the book by the British medical public. We trust that an equal, if not greater success may attend this edition, and when it is exhausted it may be followed by a yet better one.

G. T. J.

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LICHEN PLANUS ATROPHICUS.

By DOUGLASS W. MONTGOMERY, M.D., San Francisco.

RECENTLY MacKee and Wise¹ have written an article on white spot disease in which they demonstrate in a most interesting way that this designation does not include one sole disease entity. As they show, most of the cases reported should fall either under the head of lichen planus or of sclerodermia. The name white spot disease, however, is such a telling one and describes so well two of the salient features of the affection, its whiteness and its being a spot, that in all probability it will endure, and being so descriptive it should, provided that it be borne in mind that the strikingly white, indurated spots in the skin are either circumscribed sclerodermia, commonly called morphœa, or that they are lichen planus, and that these two diseases are quite distinct from one another.

The essential lesion of lichen planus is a pinhead sized, substantial papule, usually red in color, frequently angular at the base, and often having a flattened or indented top. When viewed obliquely it shows a peculiar glitter. These papules tend to occur in groups that usually evolute in such a way as to leave a perfectly normal skin. They may, however, evolute into atrophic patches of varying degrees of sclerotic hardness, and when this atrophic induration is accompanied by a coincident loss of pigment, it gives rise to one of the above mentioned varieties of white spot disease.

On October 27th, 1914, a man, sixty-two years of age, called at my office, showing an itchy "white spot" situated over the left

¹ White Spot Disease. *Jour. Cutan. Dis.*, September, 1914.

scapula, that he had first noticed one year before. The patient was a tall, thin, melancholy looking man, who had previously gone through a prolonged attack of neurasthenia.

The most striking feature about the central atrophic area of the patch, which was 2 by 4 cm., was its old, faded yellow color. The surface was dry and rough from adherent, minute crusts. When pressed on with the finger the skin wrinkled and felt like old, dry parchment. The induration was absolutely superficial, and yet left no doubt in the mind that it involved the true skin. It was perfectly movable on the subjacent structures and could be pinched up. The outline was irregular in contour, but fairly sharply bounded, and around about it the skin was reddened in a bright red band about 6 to 13 mm. in breadth, which in its turn was not sharply bounded, but faded out into the surrounding tissues.

For reasons that will be explained later, the sensibilities of the patch were tested for touch, pain, temperature and location, and no abnormality in these was elicited.

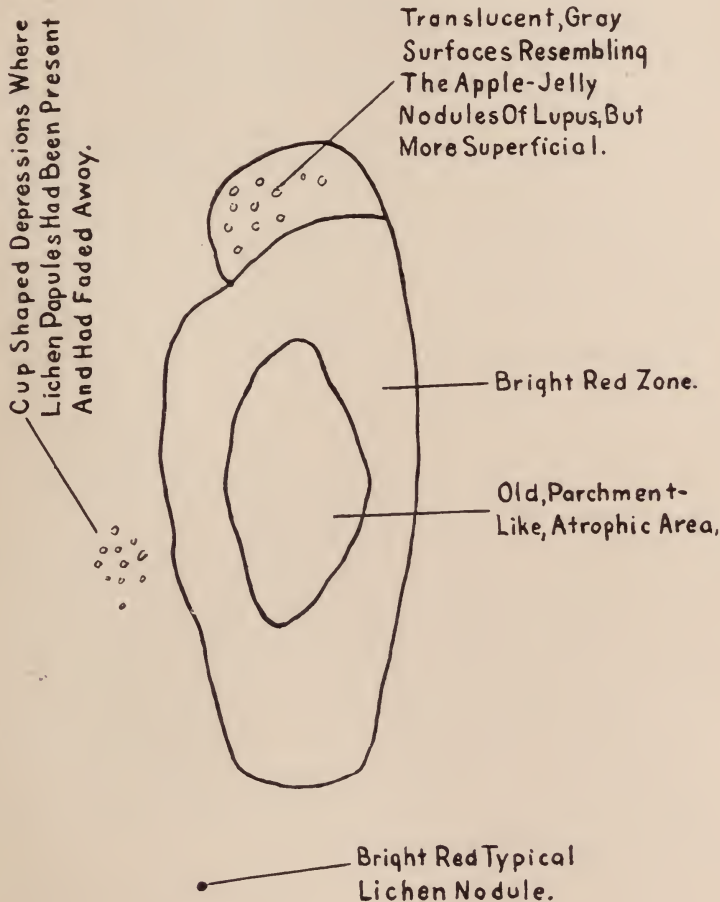
In examining the locality more narrowly this old parchment area with its bright red halo was seen to be the centre of more widespread disturbance. Beyond the upper pole of the area there was a group of very small, pinhead sized lesions, of a transparent, grayish color, resembling in these respects the tubercles of lupus, but situated much more superficially. In fact they could be seen to be in the epithelium, and not, as they would be in lupus, in the subepithelial structures.

To the left of the central patch, the skin, to the naked eye, was unusually rough. With a lens this roughness was seen to be made up of minute, cup-shaped cavities with the epithelium twisted and curbed around them. It was as if papules that had previously existed had become atrophied and sunken, carrying down with them, in each individual instance, the superposed epithelial strata, so leaving the minute holes and the roughened surface.

Away below the main patch there was a red, solitary, substantial lichen papulè. On looking at the surface in oblique light the peculiar glitter of lichen was well seen. The whole central parchment area glittered like thin crusted ice, and this resemblance was heightened by the little, tightly adherent, white, epithelial accumulations upon its surface. The whole area at the upper pole of the patch, and also out to the left, was seen by oblique light to be occupied by small, flattened, glistening lesions, that, however, could neither be appreciated with the finger nor seen by direct light, and the solitary lichen papule, previously mentioned as lying away below the main patch, also had the peculiar glitter of lichen.

All these minute lesions lying around the main patch definitely showed that the whole affection was not morphœa, which it at first glance resembled, but a modification of the great disease, lichen planus.

Frequently, I might say usually, the spots in "white spot" disease are small and numerous, and therefore give the impression of being



spots. In the case here reported the lesion was single and fairly large, and corresponded to what is usually designated a patch.

A morphœa patch begins as a more or less thickened spot that, little by little, enlarges, and while doing so the centre becomes white and indurated, and what was the centre becomes a narrow mauve

or violet border, forming one of the most characteristic features of the malady. The blanched, indurated, often lardaceous centre is usually quite thick, and cannot be pinched up. It frequently is firmly attached to the subjacent tissues. The morphœa patch may, however, be freely movable on the subjacent structures, and may be as thin as a visiting card. Furthermore, the surface of the indurated patch may be either brilliant white, or nacreous, bluish or waxy, and one can easily see how it might mimic the patchy character, the hardness and the peculiar glitter of a lichen patch.

Lupus erythematosus is a disease beginning as a red spot that blanches and atrophies in the centre, while what was originally the red centre extends as a red border. This patch, therefore, with its atrophic centre and red border, might be regarded as a lupus erythematosus of unusual and asymmetric situation. This location and asymmetry would in themselves be unusual, and besides the central atrophy did not resemble that found in lupus erythematosus, and in addition the red band was too broad and lacked the elevation and induration usual in this disease. Of course, the positive evidence of lichen planus in the neighborhood of the patch was after all the best evidence of its true nature.

Such patches as these used frequently to be mistaken, even by eminent dermatologists, for leprosy. The entire absence of any change in the sensations of touch, pain, location or temperature was enough, in this case, to exclude this disease.

Like very many of those who suffer from lichen planus, this man was a pronounced neurasthenic, and this is a point of great importance as regards classification. If lichen planus is a general disease with a cutaneous manifestation or rash, as many of the most thoughtful men, who in recent years have written on the affection, believe, then the eruption forms a means of segregating, out of the great conglomerate neurasthenia, a few cases, and giving them a definite classification. In this way, finally, a definite plan of treatment may be formulated, including not only the eruption, but also the graver neurasthenic conditions.

EPIDERMOLYSIS BULLOSA BEGINNING IN ADULT
LIFE: THE ACQUIRED FORM OF THE DISEASE.

WITH THE REPORT OF A CASE AND A REVIEW OF THE LITERATURE.*

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NOTWITHSTANDING the rarity of hereditary and congenital epidermolysis bullosa, those who are in the habit of keeping in touch with the dermatological literature of Europe and America may have noted the occasional appearance of papers dealing with this dermatosis. The great majority of these are concerned with the classical examples of the disease, of which two types are generally recognized: the simple and the dystrophic. In both forms, the characteristic symptoms usually first make their appearance at, or shortly after, birth (from a few days to one or two years).

It will serve no particular purpose, here, to go into full details regarding the typical forms of the disease; those who desire information on the subject will find an abundant literature dealing with it, chiefly in American, English, German and French monographs and theses, as well as in the larger text books on dermatology.

In this paper we desire to call attention to authentic cases of epidermolysis bullosa, in which the characteristic symptoms *first manifested themselves in adult life*. They differ, therefore, from the classical examples of the disease, in not being congenital, in the usually accepted sense of the word.

A particularly good description of epidermolysis bullosa is that by Luithlen, in Mratek's Handbook of Dermatology. His article includes a comprehensive review of the subject, up to the date of its publication. He describes the two forms mentioned above:

In the first, or simple form, the bullæ arise in the skin after

* Read in abstract before the Clinical Society of the Dermatological Department of Vanderbilt Clinic, April 12, 1915.

mechanical irritation or slight traumatism. The tendency to the formation of the bullæ is almost always hereditary. They appear on any part of the body subjected to mechanical irritation. The disease is usually congenital; the lesions may first appear at birth, or from a few days to one or two years after birth. The mucous membranes are only rarely affected. The blebs heal without leaving scars. Temporary pigmentation at the sites of the bullæ may occur, arising secondarily from scratching or other injuries. There are no permanent and extensive alterations in the skin as a result of the disease. The general health of the patient remains unaffected. The disease appears in both sexes with about equal frequency and may persist indefinitely. In some instances, the tendency to bullous formation ceases with the advent of puberty; in others, during the first pregnancy.

In the second, or dystrophic, form, the hereditary nature of the affection is also a pronounced feature, but is not as constant as in the first. Cases have been reported in which no evidence of hereditary transmission is demonstrable. The affection usually persists throughout life. As in the first group, the bullæ arise after trauma or other mechanical irritation, first appearing at, or soon after, birth. Instead of the clear, serous blebs common to the first form, there is a more marked tendency to the occurrence of hæmorrhagic lesions in the second, usually appearing on the extremities. While in the simple form of the affection the lesions may appear on any part of the integument subjected to trauma, in the dystrophic form the extremities are the regions of predilection, and the eruption is usually symmetrical in distribution. The bullæ collapse, producing crusts and scabs and when resolution has taken place, the site of the lesion shows scarring and pigmentation, varying in degree and extent. Almost without exception, permanent alterations take place in the skin, chiefly of the extremities, the areas of predilection. Exceptionally, ulcerations may occur; more commonly, the skin, in addition to the scar-like changes, shows thinning, atrophy, wrinkling, or a xerodermatous condition. On the knees and elbows there may be infiltrated and scaly plaques resembling psoriasis; or the skin may be thickened and hyperæmic in patches. In some areas, usually involving the integument overlying the bony prominences, the color of the lesions is reddish blue and they are covered with crusts. Thickening of the skin may be due, also, to the presence of horny cysts imbedded in it. These milium-like structures are often scattered, or they may appear in circumscribed and circinate groups. The cysts may persist after retrogression

of the bullæ; they sometimes disappear spontaneously after several weeks, or they may persist indefinitely. Only rarely do they appear without the coincident occurrence of bullæ.

All of the cases present extensive nail degeneration. In some instances the nails are absent at birth, or are shed soon after birth. Usually the nails are lustreless, thickened, deformed, lamellated, sometimes onychogryphotic.

The mucosæ of the buccal cavity may present bullæ, infiltrations, leukoplakia, and the lips may show scarring. The mucosa of the tongue often shares in the process; occasionally it is atrophic. The hair growth remains unaltered. Dentition is normal and the general health usually unaffected. In some cases, local pruritus precedes the outbreak of bullæ, in others itching is absent altogether.

The second form is therefore distinguished from the typical form of epidermolysis bullosa by its preference for certain areas of predilection, its symmetry, the occurrence of deep-seated cutaneous changes following the formation of bullæ, the pigmentation, the formation of cicatrices, the atrophy, the presence of milia in the affected areas or around them (sometimes seen also in the simple form), the nail degenerations and the more frequent involvement of the mucosæ.

With the exception of certain more or less constant and definite microscopic findings involving the elastic tissue of the skin in this disease, nothing of a positive nature as to its pathogenesis has yet been demonstrated. The observations of different investigators show considerable variations and even contradictions. Practically all agree that the phenomenon of bullæ, arising in skin which has been subjected to mild trauma or intermittent pressure, may be ascribed to a modified susceptibility to reaction, an increased irritability or increased sensitiveness of the integument, resulting in alterations which, under normal conditions, would be manifested merely by a transient hyperæmia of the affected skin. The question as to the actual cause of the malady has not been answered, despite extensive clinical observation and experimentation and notwithstanding the most comprehensive histological investigations.

The manner in which the bullous lesions are formed also is a mooted point. Whether the bullæ, arising by accident or provoked by mechanical means, are inflammatory in nature or not, is still an undecided question. Nor has it been definitely determined whether the detachment of the epithelium is a primary change, with a subsequent exudation from the underlying blood vessels, or, on the contrary, whether the exudate resulting from pathological reactions in the blood vessels, causes the lifting up of the overlying epidermis.

Koebner at first ascribed the trouble to an acantholysis—that is, a loosening of the prickle cell layer. Later, he thought it might be due to a modification of the cohesive properties of the epidermis and the papillary layer. Valentin attributed the bulla formation to an angioneurosis and believed in the existence of an increased permeability of the vascular walls in the affected areas. Blumer and Klebs argued in favor of an embryonal anomaly of the cutaneous vessels, manifesting itself by incomplete development—a dysplasia vasorum. Elliot, Unna, and Török regard the underlying cause to be an exaggerated irritability of the vascular system, readily conducive to alterations resulting in œdema, hyperæmia and transudation. Elliot is of the opinion that there is a congenital (or acquired) irritability of the vascular system of the skin, resulting in alterations in the basal portion of the rete, which is bathed in a serous transudate, causing degenerative changes and finally resulting in a detachment of the rete from the connective tissue. Colombini speaks of an autointoxication, with elimination of alkaloids, ptomaines and leukomaines. Kaposi and Lustgarten considered the pathogenesis of the disease to be similar to that of urticaria. Hallopeau attributed the symptoms to a trophoneurosis, more especially in the dystrophic cases.

Engman and Mook, Stanislawsky, and Kanoky and Sutton ascribe the formation of bullæ to a congenital absence of, or defect in, the elastic tissue of the papillary and subpapillary layers of the skin. Engman and Mook go still further. They have shown, in some of their cases, that the *normal skin* in patients afflicted with epidermolysis bullosa, shows œdema of the epidermis and cutis, together with “absence of elastic tissue in the papillary and subpapillary regions of the derma, and sparsely distributed and deformed in the deeper regions.” While in the bullous sections, “the elastic tissue is absent in the same region as noted in the normal skin of the patient, and presents only those changes due to œdema.” According to Hodara, the partial or complete absence of elastic tissue in the papillary and subpapillary layers can be demonstrated only in connection with the existing bullæ; its absence, in his opinion, goes hand in hand with an extensive œdema of the papillary layer, which results in a destruction of the elastic fibres. Accordingly, the absence of elastic tissue is not the cause of the malady, but rather its effect. Beck’s recent investigation of a case led him to similar conclusions. In short, while Engman and Mook regard the absence of elastic fibres as a primary phenomenon, other investigators contend that it is a secondary manifestation. Beck believes

that his studies show conclusively that the disappearance of elastic fibres is the result of degeneration, provoked by a persisting œdema of the upper portion of the corium.

In connection with the histopathological findings, several other interesting points are still *sub judice*. One of these involves the question as to which layers of the skin take part in the formation of the bulla. Török found the roof of the bleb to be formed of the uppermost layers of the stratum corneum. Blumer, Bettmann and others, that the separation takes place in the prickle cell layer only. Engman and Mook, Bukovsky, Malinowsky, Kanoky and Sutton, Petrini de Galatz, and, more recently, Hodara, as well as Beck, found that the entire epidermis is raised by the exudate; that is, the bulla is formed between epithelium and papillary bodies.

The dividing line between epidermolysis bullosa and the benign forms of pemphigus is necessarily indistinct. Undoubtedly there are a number of bullous eruptions occupying an intermediate position between the two types of eruption. Most observers lay considerable stress upon a differentiation based on the presence or absence of Nikolsky's sign: the experimental provocation of bullæ in areas subjected to mechanical insult. Nikolsky discovered this phenomenon in pemphigus foliaceus; it is said to be absent in all other types of pemphigus, however. Pemphigoid eruptions (non-syphilitic) dating from birth, have been reported by Duhring, Roach, Marshall, Hebra and many others. In these, there occurred also trophic changes, ulcerations, cicatrices, atrophic spots, nail degenerations, etc.; there was no evidence, however, of hereditary transmission, and the bullæ were not provoked by mechanical means, but arose spontaneously, as in the ordinary types of pemphigus. Luithlen holds that such cases constitute transitional types, forming a connecting link between epidermolysis bullosa and pemphigus. In one of his cases of epidermolysis bullosa, Bettmann forced fluid into a bulla by means of a fine needle and syringe. The epidermis at the periphery of the bleb was raised to a considerable extent, the area of elevation being limited only by the scar tissue in the neighborhood of the injected bulla. Bettmann ascribes the success of this experiment to a weakening of the cohesive property existing between the cells of the deep epidermic layers, or, more probably, between the epidermis and the corium. He states that such an artificial bleb formation cannot be demonstrated in any other bullous affection, including true pemphigus. Engman and Mook, in their writings, also call attention to the remarkable facility with which bullæ may be provoked in patients with epidermolysis bullosa, by merely pinching the skin.

Having thus briefly depicted the salient features of the types of epidermolysis bullosa more commonly encountered, we are prepared to discuss the group of cases which we venture to designate epidermolysis bullosa acquisita. This name is not original with us. A perusal of the literature disclosed the fact that the qualifying word "acquisita" was first employed in connection with this disease, by Kablitz (1904), in the title, "Beitrag zur Frage der Epidermolysis Bullosa (hereditaria et acquisita)." In this paper he describes an instance of the disease first appearing in a man at the age of 60. Other authors have recorded instances in which the acquired nature of the disease is inherently probable, without, however, always laying particular stress upon that point. The title of Hodara's recent paper (Concerning a rare case of atypical epidermolysis bullosa or chronic, benign, spontaneous pemphigus, localized exclusively on uncovered portions; duration 3 years, in a man 43 years old) is also couched in a manner intended to emphasize the circumstance of an acquired instance of the malady. Other allusions to the non-congenital forms are not infrequently met with. Thus, Bettmann, in Riecke's text book, states that isolated cases of both forms of the condition are encountered, in which neither a hereditary nor a familial tendency can be demonstrated; and that instances in which the bullæ first appeared at puberty or later, point strongly to the probability of an acquired type of the disease. Elliot, Le Blaye, Fordyce, Howard Fox, MacKee and others admit the likelihood of the existence of a non-congenital form. Engman and Mook did not permit this point to escape them, as the following quotation shows: "In the tabulation of 86 cases collected from the literature, 47 of them were congenital, while only 39 were hereditary. This, however, can only be of approximate value, but the figures go to show that at least 50 per cent. of them are congenital. This tendency to bullous formation after trauma, whatever be its cause, *can no doubt be acquired*,¹ as in the case cited by [Colcott] Fox. We may here also add an instance which occurred under our observation, similar to that of Fox, in which bullæ were excited by trauma upon the hands for years, after the production of a severe bullous dermatitis from the use of a certain form of cement in plastering. It seems curious that in several instances, epidermolysis bullosa has developed between the twenty-fourth and forty-fifth year, although a large majority of them have begun during the first year of life. The hereditary cases begin earlier in life, as a rule, than the con-

¹ Italics are our own.

genital ones. In the discussion of this affection we must admit, in short, that we have here to deal with the following facts, namely: that in certain individuals a tendency may be inherited, congenital or possibly acquired, in which trauma of the skin is succeeded by the formation of bullæ." Engman and Mook state that they repeatedly attempted to produce bullæ artificially in other bullous dermatoses, including pemphigus, without success. They believe that the phenomenon of bullous lesions arising as the result of mechanical insult to the skin is peculiar to epidermolysis bullosa.

We were enabled to study an instance of the acquired type of epidermolysis bullosa through the courtesy of Dr. Benjamin F. Ochs, who very kindly permitted us to remove pieces of tissue for microscopic investigation from his patient, and to obtain photographs of his skin. Dr. Ochs presented this patient before the Manhattan Dermatological Society, at the October, 1914, meeting, under the suggestive title of "epidermolysis bullosa, acquired." As far as we are able to learn from the literature, the credit of being the first to report a case in this country, under such a title, belongs to Dr. Ochs.

In this patient, a male adult, the disease had existed for a little over a year's time. There had been no previous eruptions.

CASE REPORT.

H. D. M.; male; married; age, 40; native of Austria; has been living in the United States about 15 years. Occupation, merchant.

FAMILY HISTORY. The patient's parents are living and well. He has one brother and sister, both of whom are in good health. No member of his family has ever been afflicted with any serious skin disease. He has three children, all in good health.

PAST HISTORY. Sixteen years ago, the patient had a severe cough, accompanied by bloody expectoration. After six months' illness he regained his normal health. He had an attack of gonorrhœa at the age of 20; he was married in his 29th year. There is no history of syphilis or other serious disease.

Six weeks before coming under our observation, the patient "caught cold." Since then he had been having severe spells of coughing, with profuse mucopurulent expectoration. There were no night sweats, but he had lost considerable flesh and strength. No tubercle bacilli were found in the sputum.

The cutaneous eruption began on the left hand in December, 1914, and was soon followed by similar outbreaks on the right hand, the elbows, knees and feet, as well as the buccal mucous membranes.

HISTORY OF PRESENT TROUBLE. About 14 months ago, the patient noticed that "blisters" would arise on the back of the fingers and hands, the elbows, knees and feet, whenever he accidentally came into sharp or sudden contact with any hard object, in the daily routine of his work. Frequently, after eating a meal, he noticed bullæ in the mouth. On one occasion, after a slight trauma, a bulla appeared on the scalp. Regions of the body other than those mentioned were not affected; that is, trauma, pressure, pinching, etc., did not give rise to vesicles or bullæ on other parts of the body. In the affected areas, bullæ would

make their appearance from six to twelve hours after mild and more severe traumata. On the feet, bullæ were evoked by the pressure of the shoe laces. The soles of the feet remained free of lesions, but small bullæ often made their appearance on the palmar surfaces of the fingers, after slight injury. The bullæ were tense, filled with serous fluid, many of them becoming hæmorrhagic after a few hours. After a few days, a crust would take the place of the bullous lesion; this crust, after drying, would drop off, leaving an area of reddened, glistening, tender skin in its site. In the mouth, the vesicles were soft and flaccid, and after a few hours' existence, they would resemble ordinary canker sores. They would then disappear spontaneously. The appearance of the cutaneous lesions was often heralded by moderate pruritus in the affected area of skin. In addition to the vesicular and bullous eruption, there appeared, also, groups of tiny, pearly-white bodies, usually situated in the neighborhood of the larger lesions.

The bullæ arose only after traumata; vesicles or bullæ never appeared spontaneously.

EXAMINATION, January 23, 1915.

The patient appears to be poorly nourished; he weighs about 120 pounds. His muscles are poorly developed, soft and flaccid. There is well marked premature alopecia of the scalp; the facial hirsuties are normal. Eyes: pupils equal, react normally, conjunctivæ clear. Mouth: there are several pea-sized vesicles on the buccal mucosa and the hard palate. The teeth and gums are in fair condition. The throat is clear; hearing is normal. The mastoids, larynx and thyroid are negative. Chest: inspection shows antero-posterior flattening; bilateral supraclavicular retraction, more marked on the right side. On palpation, the expansion is fair and equal. Tactile fremitus is slightly increased over the right apex posteriorly, otherwise negative. Percussion shows impaired resonance over the left apex, anteriorly. Hyperresonance in infraclavicular region; right side reveals dulness, merging into flatness, extending from third interspace to apex. Right side, posteriorly, flatness, extending from apex to seventh spine. Over this area, the breathing is harsh, with prolonged expiration. There are frequent subcrepitant râles. At the apex, breath and voice sounds have a distinctly amphoric character. Anteriorly, on the right side, there are numerous crepitant and subcrepitant râles, from the apex to the third interspace. Breathing is harsh and prolonged expiration present; amphoric characters in supra- and infraclavicular portions. Over left apex, anteriorly and posteriorly, there is prolonged expiration; no râles or voice changes. Heart: upper border, third rib; right border, mid-sternal line; left border, mid-clavicular line, where apex beat is felt in the fourth intercostal space. Action is forcible, regular, rapid. No murmurs or thrills. Basic sounds normal. Pulses equal, rapid, regular, low tension, of fair volume. Blood pressure, 110. Pulse, 92. Respiration, 32. Temperature, 99.8° F. Abdomen: flat, soft, tympanitic. No masses, no tenderness. Liver: sixth space to free border; edge cannot be felt. Spleen and kidneys are not palpable. Extremities: knee-jerks lively, no œdema. Genitals: right testicle atrophied; scrotal hernia, right side. Glands: right side, posterior cervical glands present; small glands in both axillæ; small epitrochlear gland, right side. Bilateral inguinal adenitis. Tactile sensations are normal; there is no anæsthesia. Babinski's sign and ankle clonus are absent; there is no ataxia. The skin over the affected areas is somewhat hypersensitive.

The anterior portion of the neck, on both sides, shows prominent linear scars, evidently the results of operations for the removal of glands.

The Wassermann and von Pirquet tests are negative.

The contents of several bullæ were used in an attempt to produce cultures on 2 per cent. serum glucose agar and 2 per cent. glucose and bouillon. The

results were negative, the serous exudate was sterile. Microscopic examination of the fluid contents of a newly formed bleb revealed only a few erythrocytes; there were no leucocytes.

Blood examination. Hæmoglobin (Sahli) 65 per cent. Red blood cells, 4,122,000. White blood cells, 9,800. Polynuclear neutrophiles, 69 per cent. Large mononuclears, 11 per cent. Small mononuclears, 15 per cent. Eosinophiles, 3 per cent. Basophiles, 2 per cent.

DESCRIPTION OF CUTANEOUS LESIONS.

The eruption appears on the hands and wrists, elbows, knees, feet and ankles, as well as the buccal mucosa. On the back of the hands are seen numerous pea-sized to hazel-nut sized vesicles and bullæ, some of them tense, hemispherical, filled with clear serum, others flaccid, stellate or irregular in outline, filled with blood and serum, dark red or brownish-red in color. Most of the bullæ appear on the back of the hands and over the joints of the fingers, the skin over the phalanges being in most part free of lesions. The skin covering the knuckles and joints of the fingers shows irregular, inflamed and roughened patches, some with scaly, others with raw surfaces, while over several joints the integument is thinned and atrophic. Irregularly defined atrophic spots also appear scattered over the back of the hands. Two or three inflamed patches, evidently the remains of recent bullæ, are present on the bony prominences of the wrists. Scattered over various portions of the dorsum of the hands, are seen numerous groups of closely aggregated, irregularly grouped, uniformly small-pinhead sized, slightly elevated milium-like bodies or cysts. Some of these groups are situated in close juxtaposition to the bullæ, while others are entirely surrounded by normal skin. Most of the cysts are seen over the metacarpophalangeal articulations and some of these are arranged in a crescentic fashion.

The unaffected portions of skin which surrounds the bullæ, the crusts and the atrophic areas appears to be normal in texture and presents no alterations visible to the naked eye. Here and there are faintly pigmented spots, but marked pigmentation is entirely lacking. No abnormality is seen in the nails or nail-beds; in fact, they are remarkably well preserved. There is a raw and inflamed area on the palmar surface of the left little finger, the result of a recently ruptured bulla.

Over the bony prominences of the elbows the skin is inflamed, reddish and reddish-blue in color, roughened and somewhat scaly. This appearance extends two or three inches down over the ulna. Close scrutiny reveals several irregular areas which are thinned,

wrinkled and atrophic in appearance. Larger patches of inflamed skin are evidently the result of the confluence of small lesions. The color is not uniformly red, but somewhat mottled and showing various degrees of intensity of inflammation. Surrounding the point of the elbow are numerous small cysts, similar to those described above. The flexor surfaces are entirely free.

The lesions over the knees present practically the same appearance as those on the elbows. In addition, the outer aspect of the right knee-joint presents an oval shaped, moist and inflamed area, two inches by one-half inch in diameter, covered with a fine, wrinkled membrane which is loosely attached at its periphery, to the underlying skin. This is the remains of a large, tense bleb which had only recently ruptured.

The dorsum of the feet and toes, as well as the bony prominences over the ankle-joints, present lesions in every way resembling those described on the hands; they, however, are much less marked and less numerous, while the milium-like bodies seem to be absent. Most of the existing vesicles and bullæ contain sero-sanguineous fluid. There is slight pigmentation in spots, on the dorsum of the feet. The toe-nails are normal. Several dark, thick crusts are attached to the skin over the inner aspect of the ankles.

The buccal surface of the cheeks and the mucosa of the hard palate present several groups of lentil-sized, flattened vesicles, yellow in color and circular in outline. A few small erosions are seen on the gums. Otherwise, the lingual and buccal mucosæ are normal in appearance. The mucous surfaces of the anus and urethral meatus reveal no lesions.

The patient, besides his cutaneous trouble, was afflicted with active pulmonary tuberculosis.

HISTOPATHOLOGY OF A BULLA AND OF THE NORMAL SKIN.

For microscopic study, a small bulla which had been present on the back of the hand for about twelve hours was removed *in toto*, by means of a cutaneous punch. The lesion appeared within a few hours after the patient had accidentally struck the back of his hand against a wooden table. The bulla was tense, hemispherical, and its fluid contents were clear. No pruritus or other sensation preceded the appearance of the lesion. The skin which surrounded the little bleb was apparently normal in appearance and texture. The biopsy included a zone of unaffected skin encircling the bulla around its entire peripheral margin.

The sections were stained with hæmatoxylin, hæmatoxylineosin, Gram-Weigert, Weigert's elastic tissue, and Unna-Pappenheim stains, acid orcein, and polychrome-methylene-blue. A piece of unaffected skin from the back of the forearm, about an inch above the wrist joint, was also removed, and stained by the same methods.

It was seen at a glance that the entire epidermis had been elevated from the underlying structures in the area occupied by the bulla. The roof of the latter comprised the lowermost cells of the stratum germinativum, while the floor was formed by the denuded papillary bodies. The roughly elliptical area resulting from the separation of the epidermis and corium was filled with coagulated serum, fibrin, and a moderate number of cells.

The morbid changes in the epidermis overlying the bulla were as follows: The stratum corneum and stratum granulosum were normal, the stratum lucidum being absent. In the prickle cell layer there were well-marked evidences of intra- and extra-cellular œdema. The cells forming the roof of the bulla were compressed by the surrounding fluid. Many of the prickle cells had undergone vacuolization and microscopic vesicles had formed as a result of the fusion of adjacent hydropic cells, which had suffered colliquative changes. In many of the cells the protoplasm had been reduced to a granular material, while the nuclei had undergone karyolysis. Some of the microscopic vesicles (vacuoles) contained a few migratory polynuclear leucocytes; a few of these were also present between the prickle cells. In some regions the prickles had been completely destroyed, probably as the result of the œdema.

The basal layer (in the roof of the bulla) was disintegrated, the component cells being reduced in number, œdematous, irregular in shape, more or less scattered, and loosened from their immediate surroundings, and, in many places, completely detached from the overlying strata of cells. The rete pegs were obliterated, their outlines being completely destroyed, the cells spread apart by the œdema and exudate in their vicinity. Here, also, there was seen the formation of tiny vesicles, resulting from the fusion of adjacent œdematous cells.

The bulla was situated between epidermis and corium, and was roughly elliptical in shape. Its contents consisted of coagulated serum, fibrin, small numbers of lymphocytes and a preponderating number of polynuclear leucocytes. The fibrin appeared as a reticulated network, its meshes filling up the entire bulla. Detached epithelial cells also formed a portion of the bulla contents.

The blood vessels in the vicinity of the bulla were somewhat

dilated and surrounded by well-marked lymphocytic infiltrations. The walls of the blood vessels, however, showed no evidences of morbid changes. In the lumina of some of these vessels, a few blood cells and leucocytes were present, while in others the lumina were free.

Corium. The bundles of connective tissue at the base of the bulla were faintly stained and granular in appearance, suggesting degeneration of the collagen, owing to the œdema. The connective tissue of the pars reticularis was moderately compressed in the region immediately beneath the bulla.

Elastic tissue. No trace of the elastic tissue was seen in the bulla itself. At its base, however, delicate filaments and fine branching twigs of elastic fibres were seen, somewhat faintly stained, and distinctly marking off the lower boundary of the bulla. The elastic tissue in the remaining portion of the corium was practically normal in amount, texture and distribution. The elastic tissue of the blood vessel walls showed no changes. Hair follicles, sweat glands and sebaceous glands were normal in appearance. The panniculus adiposus was unchanged.

The structures which surrounded the bulla appeared to have undergone no marked changes. The epidermis was intact until it reached the edge of the bulla, where the basal layer came to a sudden end, to give place to the œdematous and disintegrated layer of cells forming the elevated roof of the bulla. In the angle formed by the detached epidermis above, and the naked papillary bodies beneath, were seen numerous polynuclear leucocytes, a few lymphocytes, and numerous disintegrated nuclei. No changes were seen in the elastic fibres of the tissues surrounding the bulla.

The specimen of unaffected skin, removed from the back of the patient's forearm, showed no deviation from the normal.

DISCUSSION AND REVIEW OF THE LITERATURE.

In reviewing the literature pertaining more especially to the acquired variety of epidermolysis bullosa, the fact at once became apparent that to limit ourselves to the consideration of only the well defined, typical instances of this form of the malady would be to confine ourselves to a somewhat narrow field. An intelligent discussion of the subject can scarcely be undertaken without encroaching more or less upon neighboring territory. To discuss the subject from a broader viewpoint, we must, in addition to acquired epidermolysis bullosa, take under consideration the congenital variety

of the disease, as well as the so-called border line and transitional cases of bullous dermatoses; under the latter heading are included such diseases as chronic benign pemphigus, congenital and acquired bullous dystrophies of the skin (Nobl), trophoneuroses, various obscure and unclassified bullous affections, and, lastly, a rather well defined group of cases which apparently begin with the symptoms of benign pemphigus, only to become subsequently transformed into so-called epidermolysis bullosa.

It is the last mentioned type of cases that one must regard in the light of transitions between benign pemphigus and epidermolysis bullosa acquisita. The question will naturally arise: What are the characteristics of those cases of bullous disease which one may be justified in including under the head of acquired epidermolysis bullosa? With our present limited knowledge of the ætiology and pathogenesis of these affections, it may be said that a bullous affection which makes its initial appearance in an adolescent or an adult, in whom there exists a peculiar and as yet unexplained vulnerability of the skin manifested by the incidence of bullæ which are invoked by trauma, pressure, rubbing, or other form of mechanical insult to the skin (Nikolsky's sign) and not arising spontaneously, or in whom the epidermis may be readily detached by moderate squeezing or pinching—such a symptom-complex may be regarded as belonging to epidermolysis bullosa acquisita. In such cases heredity plays a minor part. In the two most typical instances, Bukovsky's and our own case, the question of hereditary transmission is entirely eliminated. Bullæ may appear on the buccal mucosa, as a result of the traumatism induced by mastication. Pruritus is not a symptom of the disease.

One of us (F. W.) had the good fortune to have under his observation two cases, in the service of Prof. Fordyce, which were examples of the above mentioned variety of combined pemphigus and acquired epidermolysis bullosa.

CASE 1. Miss T. B., presented by Dr. Fordyce before the mid-year clinical meeting of the American Dermatological Association, held at the New York Academy of Medicine, Dec. 29, 1910. "The patient was a young woman who had been under observation for about three years, during which time she had outbreaks of bullous lesions, erythema multiforme and purpura. Large bullæ developed on her hands, toes, or wherever pressure was made. The skin of her hands was atrophic, red, scaling, and in places fissured. Bullæ were constantly forming in her mouth, leaving erosions which made speaking and eating painful. The condition was scarcely distinguishable from pyralism. Her parotid glands, as well as the nodes at the angles of the jaw and in her axillæ were markedly enlarged. On several occasions she developed a generalized erythema multiforme, purpuric on the lower extremities. Her general health had been unim-

paired except when she had exacerbations of the mouth lesions, preventing her from taking a sufficient amount of food."

Numerous grouped epidermic cysts were seen on the face and extremities. These were present in atrophic skin, in scar tissue, as well as in the unchanged integument of the face.

CASE 2. Mr. B. S. "Pemphigus or Epidermolysis Bullosa? Arsenical Pigmentation. Presented by Dr. MacKee for Dr. Fordyce, before the New York Dermatological Society, Oct. 28, 1913. The patient was from Dr. Wise's service at the Vanderbilt Clinic. He was 39 years of age; born in Austria; twenty-four years in America; married; tailor by occupation.

FAMILY HISTORY. His father died of heart disease at the age of 64. His mother was living and in good health. His wife was living and healthy. He was the father of six healthy children, the eldest of which was 14 years of age; the youngest was three years of age. No member of his family, immediate or remote, ever suffered from a skin disease.

PAST HISTORY. In infancy, and up to the third year, he was afflicted with eczema of the face, scalp and hands, and occasionally there were scattered patches over the body. During adolescence he was troubled with attacks of furunculosis.

One year ago he developed an acute vesicular eruption behind the ears. This spread to the chin and neck, and was diagnosed as "impetiginous eczema" and was treated with a "dark-colored" salve. This vesiculo-crustaceous and pustular eruption spread over the face, and a few days later, vesicles and bullæ developed in the axillæ, genital region and on the buttocks. This was shortly followed by palm-sized bullæ on the inner surfaces of the feet and a vesicular eruption developed upon the forearms. Three months subsequent to this, a generalized bullous eruption appeared, which was followed in two weeks by the formation of bullæ in the mouth.

At first the lesions appeared spontaneously and developed upon clinically unaltered skin, but, about eight months ago, he noticed that traumatisms would produce bullæ. This tendency finally became very marked—the slightest injury, even the pressure of a seam or a fold in the clothing would give rise to a bleb. In the early stages of the disease the bullæ were globular, tense, and contained clear serum, but subsequently many of them were irregular in outline, hæmorrhagic and less tense, i.e., flaccid.

He was in the New York Skin and Cancer Hospital for five weeks, during which time he was given large doses of arsenic by ingestion (Fowler's solution). Shortly after this, he noticed a generalized pigmentation. Since the onset of the disease he had lost 25 pounds in weight, reducing from 132 to 107 pounds.

CONDITION WHEN PRESENTED. The patient was emaciated and showed by his facial expression that he had suffered considerably. He walked with difficulty, because the friction of his shoes or clothing produced lesions. When the patient was undressed, the first thing that attracted attention was the almost universal deep brown pigmentation. This was not a mottling, but a uniform distribution of the pigment over the entire cutaneous surface, excepting the face, scalp, palms and soles. Another striking feature was the apparent deep pigmentation wherever a bulla had been. This generalized pigmentation, with areas of paler skin, gave somewhat the appearance of leukoderma. The pigmentation had been growing less for several weeks. On the dorsal surfaces of the hands and feet, especially the fingers, the lobes of the ears and scattered here and there over the body, were milium-like cysts (sub-epidermic cysts) singly and in groups. These were usually in, or close to, the areas of pigmentation. The skin in these areas was slightly atrophic. The hands, particularly the dorsal surfaces, were covered with a cutaneous envelope that was markedly atrophic. The skin of the palmar surfaces was wrinkled, atrophic, and there was a troublesome hyperidrosis. The skin at the ends of the fingers was so thin that the papillæ could be seen with the naked eye.

There were several bullæ on the hands, one on the left knee, one on the right foot and one on the left shoulder. Two of these lesions were hæmorrhagic, and they all were produced by traumatism. They ranged in size from a dime to a silver dollar and were rather flaccid. Some were rounded while others were irregular in outline. There were several blebs and excoriations in the mouth and about the anus. There was, also, one large bulla on the glans penis.

It was impossible for the patient to masticate and defæcation and urination caused much pain.

Firm pressure for one second would so modify the cutaneous envelope, that the epidermis could be removed en masse. Occasionally the urine would find its way between the corium and epidermis of the glans and a large bulla would be the result.

The patient's pulse was usually about 88. The evening temperature was irregular, the highest record being 101° F. The urine showed slight albuminuria, a few hyaline casts and a rather marked indicanuria. Specimens of tissue removed for histological study were, unfortunately, lost. The blood showed an eosinophilia of 5 per cent.

While nearly all of the blebs that had developed in the last few months were due to traumatism, the patient thought that occasionally one would develop spontaneously."

The difficulty of deciding the question whether a given case is one of benign pemphigus or epidermolysis bulosa, basing the diagnosis on Nikolsky's sign, is well exemplified by the two instances quoted above. The first patient (Miss T. B.) was seen again early in March, 1915, with traumatic bullæ in the palms and numerous lesions in the axillæ and groins. In the latter well protected regions of the body one may be inclined to regard the bullæ there located as being of the spontaneous variety. In fact, the patient herself referred to them as being lesions which were not the result of traumatisms. Although it is quite conceivable that these lesions are truly spontaneous, it is more than probable that the constant friction, from clothing and muscular activity, to which these parts of the body are exposed, evokes the same traumatic lesions as on the more exposed areas of the body, as the hands and feet. In Dr. Fordyce's second patient (Mr. B. S.) it will be noted that in the later period of his disease most of his lesions were of the traumatic variety, although he thought that some of them arose spontaneously. Here, again, there is a strong element of doubt regarding the provocative agent in the production of the lesions. Whether the ingestion of large doses of arsenic, in his case, so altered the vulnerability of his skin as to make it susceptible only to traumatic influences, is a question which would require extended study.

In the following cases of acquired epidermolysis bullosa it will be noted that, while the bullæ in some of the patients arise only as the direct result of trauma, in others there seems to be little doubt

that spontaneous lesions also play a part in the picture. With this fact in mind, the significance of Nikolsky sign, as an aid in differential diagnosis, loses much in value.

CASE 3. KABLITZ. The patient was a woman, aged 64, in whom the tendency to bulla formation first manifested itself when she was 59 years old. Despite the absent hereditary factor and the fact that the disease began at a period of life in which the classical cases of epidermolysis bullosa disappear or greatly improve, the formation of bullæ following pressure or rubbing, the predilection for exposed surfaces, the unimpaired general health of the patient and the recrudescences in warm weather, identifies this case with the simple traumatic type of the malady. Scarring and epidemic cysts were not present and the nails showed only minor dystrophic changes. (No histological report.)

CASE 4. C. FOX. In this case, a woman, 54 years old, developed a bullous eruption at the age of 45, which, from the character of the lesions, their grouping, their spontaneous development regardless of season, had the usual features of pemphigus vulgaris. In a few months, however, the character of the disease changed; the bullæ developed only as the result of trauma, however slight, and in healing, left an atrophic and cicatricial condition of the skin, which in certain locations was fairly riddled with epidemic cysts; the mucous membranes were similarly involved and in the eye, gave rise to an "essential shrinking of the conjunctivæ"; the nails of the hands and feet were entirely destroyed. These clinical findings justified Fox in classing this case with the dystrophic type of epidermolysis bullosa. (No histology.)

CASE 5. HODARA. In this case we find a man, 43 years old, who for three years has been suffering continuously with a bullous eruption curiously localized to the uncovered portions of the skin, notably the hands and fingers, face and ears, the back and sides of the neck. The mucous membranes were never involved. The bullæ for the most part appeared spontaneously, but could be experimentally invoked by pressure, and, on healing, they left the skin pigmented and atrophic. Distinct nail changes were also present. The face was practically covered with epidemic cysts.

Microscopic examination showed the elastic fibres in the superficial layers of the bulla in various stages of degeneration, while in the deeper strata of the derma, the elastic fibres were hypertrophied. The elastic tissue and other elements in the non-affected portions of the skin showed no deviations from the normal.

CASE 6. PHILIPPSON. This case, reported as chronic traumatic epidermolysis bullosa, occurred in a woman, aged 51, who suffered with the disease since she was 27 years old. The condition was limited to the hands and fingers, where bullæ developed at times spontaneously, at other times following the slightest trauma. The trophic disturbances here were very marked, resulting finally in gangrene and atrophy of the finger tips.

CASE 7. BUKOVSKY. The patient, a boy, was 17 years old, and was quite certain that, despite frequent traumata, the disease did not make its appearance before the age of 14. On examination, the patient showed bullæ everywhere excepting on the face, head, neck and back. Bullæ appeared only after trauma and could be experimentally produced, the resulting scars being smooth, white, atrophic, sharply localized and pigmented at the margins. Epidemic cysts, nail changes and mucous membrane involvement were also present.

Histological examination failed to show any distinctive changes, either in the blebs or the healthy skin.

CASE 8. LE BLAYE. This case deals with a man, aged 75, who had been affected for two years and in whom the disease was localized in the inguinal regions. On the right side, where the patient wore a truss for a recurrent

inguinal hernia, the bullæ were quite numerous (also present on the herniotomy scar). On the left side, the bullæ were fewer, but on both sides bullæ could be produced by even slight pressure with the head of a pin.

Microscopic examinations showed absent or disappearing elastic fibres in the papillary and subpapillary layers; in the deeper layers and in the unaffected skin the elastic tissue was normal.

CASES 9, 10 AND 11. BETTMANN. The disease in these cases affected three brothers in a family consisting of five boys and one girl. At the time the cases were reported the three patients were aged respectively 17, 21 and 23 years, and, curiously enough, in each the malady appeared at the age of 12. The distinctive features, such as traumatic and spontaneous bleb formation, pigmented, atrophic scarring, predilection for the hands, feet, knees, elbows and neck, mucous membrane and nail involvement, and a tendency to frequent epistaxis were present to a practically like extent in the three brothers.

In the succeeding cases the disease began earlier in life than in the case-reports cited above. Yet the fact that there were no manifestations of the trouble until after the third year of life makes it evident that these instances cannot, in a strict sense, be termed congenital.

CASE 12. LESSER. In this patient, a boy of 13 years, the disease had existed since the age of 4 years and was evidenced by the presence of bullæ on the hands, feet and in the mouth. The blebs appeared only as the result of traumata to the skin.

CASE 13. KÖBNER. JOSEPH. A woman of 37 years first showed signs of the disease at the age of four. Bullæ appeared following traumata, were present on all parts of the skin subjected to pressure and rubbing and were most pronounced in the summer. The disease was present in two of her four children since birth.

CASE 14. ELLIOT. This patient was a man aged 39 years, in whom the disease appeared at the age of five. The bullæ appeared on the hands and feet, could be experimentally produced, and the eruption was most pronounced during the summer.

CASE 15. ENGMAN AND MOOK. This patient was a boy, aged 8 years, whose body, at the time of examination, was entirely covered with crusts. There were present some bullæ filled with serous and serosanguineous fluid, as well as epidermic cysts and a few lesions on the tongue. Hair and nails were normal, and there was no scarring and pigmentation. The disease was of one-and-a-half years' standing.

The elastic tissue in sections from the normal skin and from a bleb was absent in the papillary and subpapillary regions of the derma, and deformed and sparsely distributed in the deeper regions of the skin.

In studying the various case-reports dealing with the acquired form of the malady, we found that Bukovsky's case most closely resembled our own in many of its features.

As already stated, Bukovsky's patient was a boy of seventeen years, in whom the disease first appeared when he was fourteen years old. The family and personal history were negative. As in our patient, this boy also was afflicted with an active tuberculosis of the lungs. The bullæ were distributed over the extremities, a

few were on the trunk, while the face, scalp and neck were free of lesions. He had numerous oval and linear scars, the result of previous lesions, chiefly on the upper extremities, while a few were present on the trunk and legs. Many small miliary cysts were present within and in the vicinity of the scars, some of them scattered, others grouped. Well marked nail changes—degeneration and total destruction—were a feature of Bukovsky's case, thereby differing from our case, in whom the nails were absolutely normal. The absence of morbid changes in the nails of our patient may presumably be explained by the comparatively short-lived existence of the malady in his case. No doubt the nails would undergo subsequent changes in the event that the disease progresses. Bukovsky's case had buccal lesions similar to those seen in our patient. The slightest scratch, in his case, would produce an abrasion of the skin—a loss of the epidermis—while gentle friction would evoke a typical bulla, which appeared within one-half to one hour after the provocative trauma had been inflicted. The appearance of the bulla was preceded by a sensation of slight pruritus. More violent trauma would result in the formation of a bulla almost at once, while prolonged pressure would produce a similar effect after a very brief interval.

Bukovsky examined a bulla which had been present for one-half hour and which resulted from a trauma to the skin. Under low magnification, it was seen that the epidermis was raised and that it was attached to the corium only at the periphery of the bulla. The lower border of the epidermis, as well as the corresponding outlines of the papillary bodies were distinctly outlined. Nowhere in the cutis was there any aggregation of inflammatory products (small celled infiltrations). No changes were visible in the blood vessels, nor in the glomeruli and the excretory ducts of the sweat glands. There were a few hair follicles in which nothing abnormal was noticed.

HIGHER MAGNIFICATION. Epidermis. Here it was at once seen that the cylindrical form of the basal cells had been preserved and that the nuclei stained well with hæmatoxylin. The limiting membranes of the individual cells were easily discernible. Some of the nuclei were elongated, somewhat rod-shaped and darkly stained. In the prickle cell layer there were a few changes. The cell protoplasm was unstained, giving the impression of vacuolated cells. Often several cells seemed to be fused together, resulting in a grouping of three or more nuclei. This layer of faintly stained cells, which possessed a normal, round nucleus, was sharply defined in relation to the basal cell layer, as well as the stratum granulosum. The stratum granulosum was normal, the cellular elements thereof containing a considerable amount of keratohyalin. The horny layer was of normal thickness. In sections which contained excretory ducts of sweat glands, there was seen a considerable massing of keratohyalin. The contour of the basal cells in areas where the epidermis was elevated, was perfectly sharp and smooth, forming a somewhat wavy line. In areas where the epithelium was still in contact with the corium, there were little places showing narrow clefts between the epidermis and the adjacent papillary connective tissue. Elsewhere the clefts were a little wider, the epithelium being more broadly separated from

the connective tissue structures beneath. Within these spaces no sign of an exudative process was to be seen.

In areas in which there was a broad separation between the rete pegs and the papillæ, the surfaces of the latter showed some thickening. Many papillæ contained the ducts of sweat glands and appeared compressed within the papillary bodies. The capillaries in the papillæ were somewhat dilated, otherwise they were unchanged.

In the cutis there were no signs of small celled infiltrations or any other pathological changes.

The elastic tissue (stained by various processes) appeared to be normal. The papillæ themselves possessed a normal elastic tissue network.

Bukovsky's interpretation of the formation of bullous lesions is as follows: A trauma causes a simple detachment of the epidermis from the underlying structures. If the trauma is sufficiently violent, the epidermis is completely removed, resulting in an abrasion. No vacuum can exist underneath the detached epidermis, especially when the irritation to the skin is followed by hyperæmia, etc. Therefore, the first thing that occurs is an exudation into the subepithelial space, followed by moderate inflammatory changes in the corium. The elevated epidermis is at the same time deprived of its nutritive sources, resulting in changes in the rete, of a degenerative character. The histological appearances of the bulla and its vicinity become altered. Changes resembling vacuolization appear in the epidermis, and the bulla becomes filled with an exudate of leucocytes, while the corium shows signs of a reactive inflammatory process.

The author concludes: The bulla appears soon after the infliction of the trauma. The more intensive the injury the sooner is the bulla provoked. In milder injuries the hyperæmia precedes the appearance of the bulla. The latter is provoked directly and primarily by the injury to the skin, resulting in a detachment of the epidermis from the corium. As a result of secondary alterations, caused by injury to the vessel walls from the trauma suffered by the skin, there follows hyperæmia and exudation, finally expressing itself by a visible vesicle or bulla in the skin.

Bukovsky attributes the phenomenon of the detachment of epidermis from corium to a difference in the contractile power of the layers of the integument. Why such a difference should exist in these cases is, of course, not known.

SUMMARY AND CONCLUSIONS

To recapitulate, the case herein reported represents an instance of a bullous dermatosis possessing the features common to the dystrophic type of epidermolysis bullosa hereditaria, but differing from the latter in being neither congenital nor hereditary, and in

showing no morbid alterations of the nails; and, further, in making its initial appearance in adult life. Clinically, the eruption is characterized by occurring chiefly on the extremities; by the incidence of vesicular and bullous lesions evoked solely by trauma; by the presence of numerous epidermis cysts; by the formation of areas of atrophic and cicatricial tissue at the sites of bullous lesions which had ruptured and undergone involution; and by the occurrence of bullous lesions on the buccal mucosa.

Histologically, the most interesting feature in this case is the paucity of pathological changes in the affected tissue, especially in connection with the elastic fibres, which are practically unaffected; other noteworthy features are the absence of marked alterations in the blood vessels and, finally, the disposition of the bulla, situated between epidermis and corium.

The unaffected regions of the skin show no changes to the naked eye or microscopically.

With regard to the relation which this case bears to other bullous dermatoses, we can eliminate pemphigus by the lack of constitutional disturbances, by the entire absence (in our case) of spontaneous blebs, by the occurrence of distinct areas of predilection, and by the presence of atrophic and cicatricial lesions at the sites of preëxisting bullæ. The disease is differentiated from dermatitis herpetiformis for similar reasons, and also by the absence of pruritus and by the concomitant efflorescences, such as wheals, papules, pigmentations, etc., peculiar to Duhring's disease. On the same grounds, the possibility that we are dealing with a bullous drug eruption is likewise eliminated, aside from our knowledge of the fact that the patient had not taken drugs. Other conditions, such as Morvan's disease, various forms of hydroa, etc., need hardly be considered in the face of our findings.

CONCLUSIONS. We are justified in recognizing the existence of an acquired form of epidermolysis bullosa, distinguishing it from the better known congenital and hereditary forms of the disease.

Excepting that the malady first appears in adult life, the acquired form is practically identical, in its clinical manifestations, course and evolution, with the congenital and hereditary forms of the affection.

The histopathological features vary greatly in different cases, especially with regard to the elastic tissue of the skin and the changes in the vascular system.

We desire to express our indebtedness to Dr. George M. MacKee for his kindness in supplying us with the clinical and microscopic photographs herewith

PLATE XXI.—To Illustrate Article on Epidermolysis Bullosa Acquisita, by
FRED WISE, M.D., and M. F. LAUTMAN, M.D.



Fig. 1.

Right hand, showing a hæmorrhagic bulla on the middle finger, a ruptured bleb near the little finger and epidermic cysts over the articulations.



Fig. 2.

Left hand, showing serous and hæmorrhagic bullæ, epidermic cysts, crusts and areas of cicatricial tissue.

PLATE XXII.—To Illustrate Article on Epidermolysis Bullosa Acquisita, by
FRED WISE, M.D., and M. F. LAUTMAN, M.D.



Fig. 3.

Right knee, showing recently ruptured bulla.

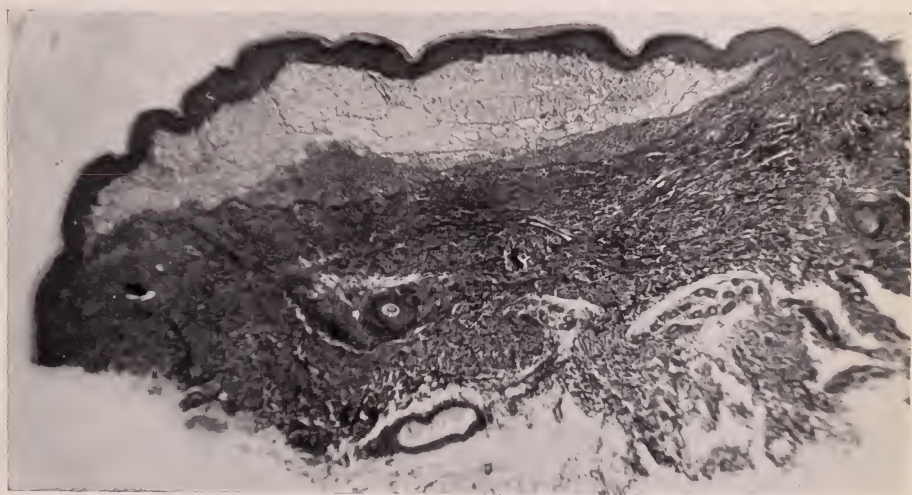


Fig. 4.

Low power, showing position of the bulla in the skin and its relation to the surrounding tissues. The epidermis, in its entirety, has been lifted up by the exudate. The bulla is about 12 hours' old. Note the elastic tissue.

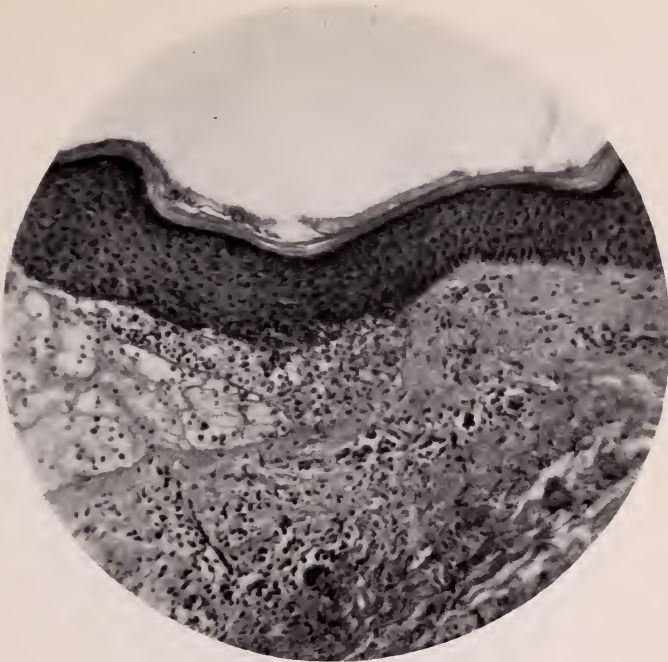


Fig. 5.

On the left side is seen a portion of the bulla with its exudate of serum, fibrin and leucocytes. The cells of the stratum germinativum over the bulla are flattened and disintegrated. There is a moderate dilatation of the blood vessels and a perivascular lymphocytic infiltrate.

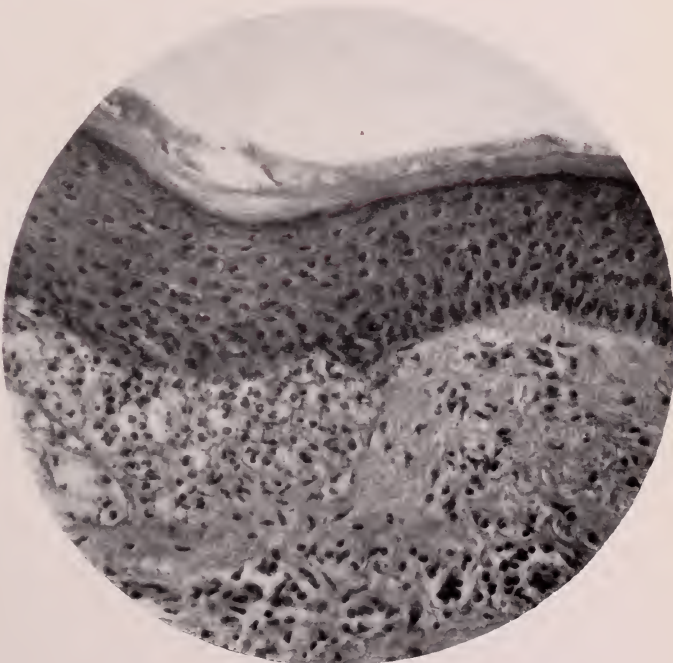


Fig. 6.

Showing same changes as Fig. 5, under higher magnification. Note character of cellular exudate, consisting of polynuclear leucocytes and lymphocytes and the sharp transition from normal to disintegrated basal-cell layer.

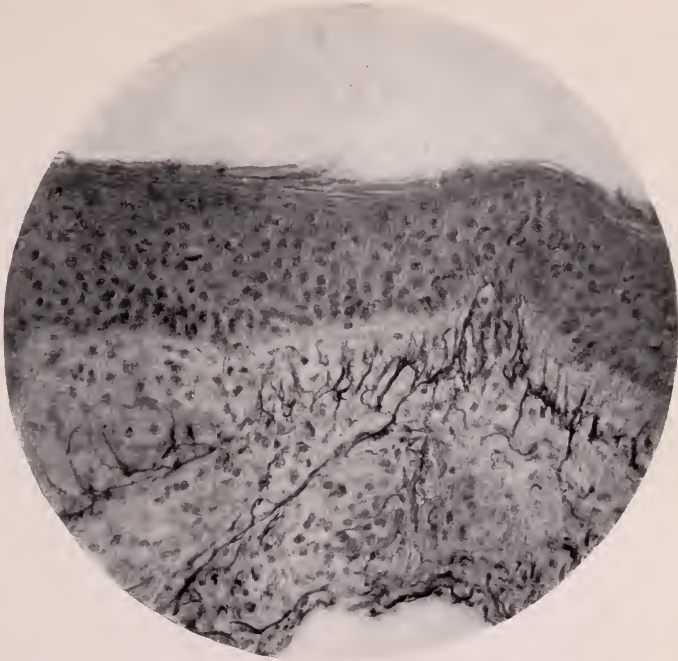


Fig. 7.

Showing normal elastic tissue in the corium at periphery of the bulla.

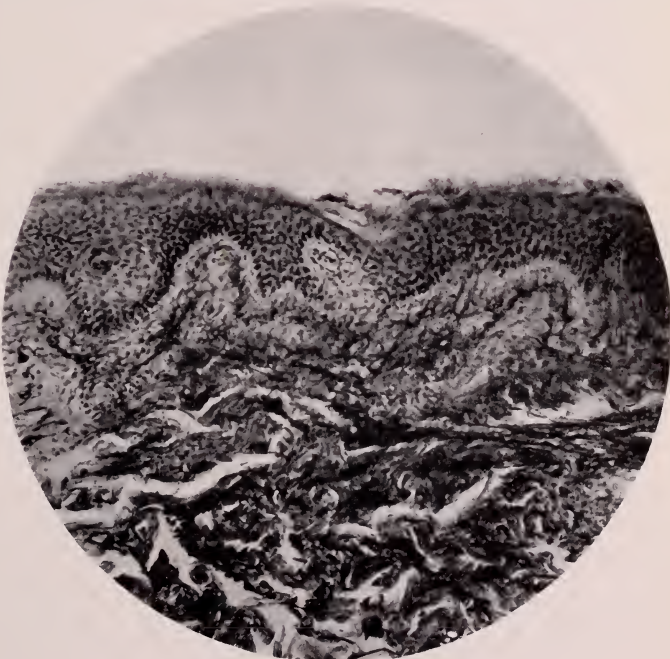


Fig. 8.

Showing section of normal skin from same patient. Elastic tissue shows no changes.



submitted; and to Dr. Benjamin F. Ochs for his generosity in placing his patient at our disposal.

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MULTIPLE BENIGN CYSTIC EPITHELIOMA, WITH A REPORT OF FOUR CASES.*

By J. W. MILLER, M.D., Cincinnati.

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IN view of the number of cases now on record, multiple benign cystic epithelioma can no longer be described as a rare disease. The following report of four additional cases will help to bear out this statement. Some unusual features seen in the first patient coming under observation, leading again to Adamson's (*Lancet*,

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Oct. 17, 1908) unanswered query as to "what is the essential difference between a benign and malignant epitheliomatous growth?" makes this type of new growth always an interesting study. Stelwagon (*Diseases of the Skin*, seventh edition, page 877) has reported a similar case, and this, together with the case of J. C. White (*Jour. Cutan. Dis.*, 1894, p. 482) and the one observed by Jarisch (*Arch. f. Dermat. und Syph.*, xxviii, 1894) in which malignant changes occurred locally, led the first named observer to remark, "In view of the few instances in which, in this mild malady, degenerative changes have occurred, it is highly probable that the future of these cases may show that the term 'benign' is scarcely acceptable."

CASE REPORTS.

PATIENT 1. The subject of this report is a married woman, a widow, 51 years of age. She has one son, aged 26. Her weight is 140 pounds, and her height is five feet and five inches. The family history is of no importance, excepting that her mother, who is 85 years old, has been an inmate of the insane asylum for the past forty years. The physician in charge reports the mother free from any skin disease. The patient stated that the cutaneous affection was first noticed several years ago, beginning with the appearance of small nodules upon the scalp. In the latter half of the year 1913, she noticed an enlargement of the right hypochondriac region, for the treatment of which she applied to the hospital. Operation was suggested, and on opening the abdomen, an infected gall bladder was found; this was drained, and an uneventful recovery took place.

An examination at this time revealed the presence of various sized growths upon the scalp, in both axillæ and in the pubic region.

General Symptoms. With the exception of the cholecystitis above mentioned, her general health was good. An ordinary urine and blood examination showed nothing abnormal.

Cutaneous Lesions. On examination, the lesions were found to be nodules of various sizes and colors. They were situated on the scalp, forehead, temples, back of the neck, in both axillæ and in the pubic region. Many occurred as distinct nodules (forehead, temples, neck and pubic region) while others (scalp) coalesced and formed large masses. The color, which varied from pinkish to deep red for the larger lesions, was pearly or pale yellow, with a pseudo-vesicular appearance, in the smaller growths. All the lesions were nodular and for the most part roundish, and varied from a pea to a small orange in size. The lobulated masses were the result of

fusion of the separate nodules and were free from hair. No milium-like bodies, as were seen in the three cases reported below, were noted.

The patient stated that some of the lesions disappeared spontaneously, but this could not be confirmed. The nurse in charge of the ward was instructed to carefully note if this occurred and her answer was that none ever disappeared. There were no evidences of stains or other signs of the tumors spontaneously disappearing. The only treatment was the administration of large doses of potassium iodide which had absolutely no effect. Degenerative and ulcerative changes began after a short residence at the hospital; these took place in the large masses upon the scalp and the breaking down process slowly progressed, resembling, in this respect, J. C. White's case (*Jour. Cutan. Dis.*, 1894, p. 482). Dr. White stated: "The most remarkable feature in my case, however, was the transformation of the oldest and largest lesions. Three or four of these had, in recent years, taken on the appearance of ordinary epithelioma in several of its advanced clinical phases, viz., scaling, crusting and open deep ulcerative destruction of the whole skin. If any of the latter were alone under observation, no other diagnosis than ordinary epithelioma could be entertained, whereas the great bulk of the lesions were just like those hitherto recorded as characteristic of the affection."

There were no subjective symptoms in my case and the general health appeared good. After convalescing from the gall bladder operation she was up and about the ward and was anxious to return to her home. She was granted this privilege, but now spent the greater part of her time in bed and eventually, symptoms on the part of the gastro-intestinal tract appeared, namely, loss of appetite and vomiting. The family becoming alarmed, she was again removed to a hospital. Here her condition did not tend to improve, a cough developed and the physical signs of a bronchopneumonia were evident. She died from exhaustion, the latter part of June, 1914. A post-mortem examination was not made. The histological report (by Dr. Paul G. Woolley) on a nodule removed from the scalp was multiple benign cystic epithelioma. The clinical appearance recalled the picture of endothelioma of the scalp, and Adamson's recent review of a case (On the Nature of Rodent Ulcer, *Lancet*, March 24th, 1914, case ii, p. 813) showing some similarity, merits repetition. "Incidentally it may be remarked that this case is an example of the so-called endothelioma of the scalp, of Spiegler and Mulert, which Dubreuilh and Auché have shown to be benign epithelioma derived from the basal cell layer of the epidermis, and to resemble,

PLATE XXV.—To Illustrate Article on Multiple Benign Cystic Epithelioma, by
J. W. MILLER, M.D.



Fig. 1.
Showing lesions on the scalp.

histologically, rodent ulcer. The association of the multiple tumors of the scalp in this case with epithelioma adenoides cysticum is interesting and helps to place these tumors in their true position as tricho-epitheliomata, as suggested by their histology. Friebo's has recently published a similar case of multiple benign tumors of the face, trunk and limbs. He regards the face and body tumors as tricho-epithelioma (epithelioma adenoides cysticum) but thinks the scalp tumors are of sweat gland origin. The present writer agrees with Dubreuilh that, although the microscopical appearances of the scalp tumors somewhat suggest a sweat gland origin, it can be demonstrated that they are really tricho-epitheliomata."

PATIENTS 2, 3 and 4. Brother and two sisters, aged 18, 22 and 28 years, respectively. The nodules were situated in the naso-labial furrow, at the inner side of the orbit, on the temples, upper lip and on the chin. The nose was the seat of a large number of nodules varying in size from a pin head to a split pea. The scalp also presented a few scattered lesions (pea size). Some of the nodules were raised, firm and rounded, insensitive, and for the most part were the color of the skin, while others had a slightly yellowish or waxy look, resembling very much the pearly border of a rodent ulcer. Many were closely packed and grouped, especially in the naso-labial furrow. Ulceration or active inflammation was not present. Subjective symptoms have been uniformly absent. At my request the brother wrote the following history: "My mother tells me I did not have these growths until I was seven or eight years old. My father had several on his face, but my mother's face was always free from any skin condition. There are four children, my two sisters, and a brother and myself, and all of us were affected." The writer had this brother and the two sisters under his observation and treatment, and the situation and general appearance and distribution of the lesions were the same in all three patients. From statements made by these patients, the unobserved family member was similarly marked.

PATHOLOGY. The lesion excised for histological examination was from the scalp of the brother. "Specimen number 1284 is that of a younger growth than that of number 1200 (patient 1). The section shows islands of epithelial growth, many of an alveolar type, and some of the tissue is arranged in finely branching arboreal figures. The cells are of the basal type, and some of the masses have undergone degeneration in their central part, leaving cyst-like cavities. The tumor probably has its origin in hair follicle or sweat (coil) glands. (P. G. W.)"

In treating this condition the early and complete eradication of

the lesions is highly important. This was accomplished by means of the galvano- and actual cautery.

The writer wishes to express his sincere thanks to Prof. Paul G. Woolley, of the College of Medicine of the University of Cincinnati, for his interpretation and report on the histological sections, and to Dr. Charles Goosmann and Miss Clark, of the pathological laboratory of the Cincinnati General Hospital, for valued assistance.

SPECIAL ARTICLE.

THE METABOLIC INFLUENCE OF CHLORIDES ON CERTAIN DERMATOSES.

By M. L. RAVITCH, M.D., AND S. A. STEINBERG, M.D.,
Louisville.

Continued from page 372, May issue.

WHILE all the investigations as to the ætiology of eczema in its different phases up to the present time have been futile, we must not forget that eczema is not a simple dermatitis, but more a disease *sui generis*, and distinct from other diseases. Eczema may manifest itself in the form of a dermatitis, yet not every case of dermatitis is eczema. External agents may produce true clinical pictures of eczema in predisposed individuals, yet mineral metabolism may be, and often seems to be, the real cause of it, although a great many other causes have been assigned to it by various investigators. J. C. Johnston doubts all the theories so far advanced as to the ætiology of eczema, and in his classical article on the causation of eczema, says: "So far as the metabolism of the inorganic compounds is concerned, we may as well confess to abysmal ignorance at once. The best that can be said as regards eczema is that so far as we know the metabolism of the chlorides, phosphates and calcium is in equilibrium. I have not made out that there was chloride retention even in cases accompanied by great œdema, but the number has been very small."

Since œdema is present in almost all cases of acute and sub-acute eczema, whether it is manifested on the face in infants or on the extremities of adults, many dermatologists and pediatricians attributed this phenomenon to the chloride retention in the body. The coincidence of restriction of the intake of chlorides and the disappearance of œdema, led many clinicians to the adoption of a

chloride restriction therapy. Finkelstein was the chief advocate of such restriction in the diet of infants. This may have been successful in some cases, but we do not think it would hold good in the majority of cases, viewed in the light of the experience of many clinicians. Luithlen, Bruck, Czerny and Bloch hold that feeding the children with Finkelstein's salt-free soup is erroneous, as eczema is not due especially to an increased amount of salt in the organism. In their experiments, improvement followed the administration of sodium and calcium salts. It is very interesting to note that, as we mentioned before, our American physiologist, Martin Fisher, holds that retention of sodium chloride does not lead to œdema, but that the latter is due to abnormal accumulation of acids in the body. He emphasizes the fact that clinical experiments have shown that sodium chloride retention is often an accompaniment of pathological conditions in which there is evidence of an abnormal production and accumulation of acids in the body, and reports cases in which both the acidity and œdema in the tissues have been lowered by the administration of salts.

Notwithstanding the assertions that retention of chlorides is present in or follows many pathological conditions, many investigators claim great value for the administration of sodium and calcium, some giving greater effect to the Na and Ca ions, and others to the chloride ion. Some have found these salts very beneficial in certain dermatoses. The activity of the cells is augmented by sodium chloride and the lymphatic glands are stimulated. It regulates the osmotic tension of the blood, tending to maintain it at a constant density. Wright was one of the first advocates of the calcium therapy. Since calcium chloride is present in the blood plasma and necessary to the phenomenon of coagulation, its importance has been recognized in exudative processes. Undoubtedly a certain amount of calcium is necessary to the action of complement, while phagocytosis is stimulated by its presence. In skin diseases its particular usefulness has been found in urticarias, erythemas and purpuras, conditions in which the coagulability of the blood is diminished.

In the last five years we have taken special pains to investigate some of the claims made by various investigators as to the metabolistic importance of the chlorides in certain dermatoses, eczema particularly. Further investigations and verifications may help to clear up the pathogenesis of certain dermatoses in their relationship to the metabolistic influence of chlorides. In our limited experiments we had the same experiences as did Bruck,—namely, that by enriching the organism with salt, eczematous processes were improved, while

by washing out of the salts, or by eliminating the salts from the diet, we made the condition worse. Galewsky reports the same experience. He found that eczema in children was greatly improved by the withdrawal of fat from, and introduction of salts into the food. As under certain conditions fats are broken down into lower fatty acids, such as acetic, butyric, etc., which, in excess, can produce an acidosis, his success would seem to substantiate Fisher's theory.

The reports of the following group of cases were chosen not as conclusive, but rather as stimulative to further study of this important question. In two cases of exudative erythema we had splendid results from sodium and calcium chloride medication. We had twenty-three cases of eczema, fourteen children and nine adults. Of the fourteen cases of infantile eczema, six were breast-fed, three were fed with artificial food, and five had been weaned and were on a mixed diet. The age of the infants ranged from seven months to three years. In the adult cases five were men and four women. The clinical picture of the eczemas, both in children and adults, was identical with the classical description of true eczema in acute, sub-acute and chronic stages. Every case was typical of eczema, and passed through acute and subacute exacerbations. The symptoms in all the selected cases were as near true to the text-book description as could be found. Hereditary influences, apparent digestive disturbances, teething, menstruation and menopause, as ætiological factors, were excluded. None of the male patients was addicted to alcoholic liquors. The urinary changes were not thoroughly noted, but we found an indicanuria in only two cases. We divided the selected twenty-three cases into two groups. In the first group were seven children and five adults; in the second group, seven children and four adults. In order to demonstrate by clinical experiment whether the salts of sodium and calcium are an important metabolic factor in amelioration of eczema in adults and children, we put the first group on a liberal allowance of sodium chloride with the food, with the complementary use of calcium chloride, in doses of from two to twenty grains, according to age, three times a day. The second group received a salt-free diet and the usual intestinal antiseptics. The same external remedies were used in both groups: solution of aluminum acetate, followed at night by Lassar's paste. The instructions were carried out to the letter. We had the earnest coöperation of the parents of the children, and of the adult patients themselves. The records of these cases being too lengthy, we refrain from including them, but will condense them into the following two tables:

TABLE 1.
SALT-RICH DIET AND MEDICATION.

Case number.	Name.	Age.	Sex.	Duration of disease.	Number of attacks.	Diet.	Duration of salt-rich diet.	Daily dose of calcium chloride.	Result.
1	B. C.	7 mo.	F.	7 wks.	1	Breast-fed	6 wks.	0.2 gm.	Good
2	M. R.	9 "	F.	11 "	2	"	9 "	0.3 "	"
3	L. P.	8 "	M.	10 "	1	Artificial	7 "	0.2 "	"
4	L. K.	11 "	M.	9 "	2	"	11 "	0.3 "	Fair
5	C. C.	9 "	M.	12 "	1	"	8 "	0.2 "	Good
6	R. T.	2 yrs.	F.	12 "	3	Mixed	3 "	0.6 "	"
7	N. K.	3 "	F.	11 "	1	"	5 "	0.6 "	"
8	P. N.	56 "	M.	2½ yrs.	5	Meat restriction	11 "	2.0 "	Fair
9	R. A.	37 "	M.	1½ "	3	"	4 "	2.0 "	Good
10	R. C.	64 "	M.	4 mo.	1	"	7 "	2.0 "	"
11	A. L.	31 "	F.	7 "	2	"	4 "	2.0 "	"
12	H. H.	63 "	M.	6 wks.	2	"	9 "	2.0 "	"

TABLE 2.
SALT-FREE DIET AND MEDICATION.

Case number.	Name.	Age.	Sex.	Duration of disease.	Number of attacks.	Diet.	Duration of salt-free diet.	Present medication.	Result.
1	M. I.	9 mo.	M.	7 wks.	1	Breast-fed	10 wks.	Intes. antisept.	Fair
2	B. W.	9 "	M.	9 "	2	"	12 "	"	Poor
3	K. R.	14 "	F.	9 "	1	"	9 "	None	Poor
4	W. W.	9 "	M.	11 "	1	"	7 "	Laxatives	Fair
5	B. R.	2 yrs.	F.	5 mo.	3	Mixed	10 "	None	Poor
6	M. S.	3 "	F.	9 wks.	1	"	11 "	"	"
7	M. D.	2 "	F.	11 "	1	"	5 "	"	"
8	K. U.	60 "	M.	3 yrs.	6	Moderate	11 "	"	"
9	E. A.	47 "	M.	2 mo.	2	"	4 "	"	Fair
10	R. P.	68 "	F.	5 wks.	1	"	7 "	Intes. antisept. laxatives	Good
11	D. C.	42 "	F.	7 "	2	"	5 "	None	Poor

Our conclusions, as drawn from our close observations on these cases, may be summed up as follows:

1. We consider true eczema as a product of multiple ætiological factors of metabolic nature, and among them the chloride metabolism finds its place.

2. In some cases bacterial toxins may coexist, not as the cause of eczema, but as a coincidence or perhaps a contributing agent.

3. Anaphylaxis may also be held as one of the contributing aetiological factors.

4. The susceptibility or irritability of the skin can be influenced by nutrition and absorption of various substances.

5. The chlorides of sodium and calcium exert a great influence in diminishing or modifying the susceptibility or eczematous reaction of the skin.

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NOTE. The next article in the series on Physiological Chemistry will appear in the July issue of THE JOURNAL.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meetings, Dec. 15, 1914; Jan. 26 and Feb. 23, 1915.

HANS J. SCHWARTZ, M.D., *President.*

PORT WINE NÆVUS TREATED WITH KROMAYER LIGHT. Presented by DR. CLARK.

The interesting feature in this case was the effect thus far obtained with the port wine nævus, which was particularly difficult to get rid of, especially in such an extensive case as the one presented. The patient had a solid port wine nævus extending from behind the ear and back of the neck to the clavicle, forward to the anterior border of the sterno-cleido-mastoid and up along this border to the inferior maxillary border. This had been treated with the Kromayer light, and apparently with very satisfactory results. Many of the portions were quite white after one exposure; some spots had had two exposures; and one place back of the ear had had three exposures and had involuted. Some of the others will have to have further exposures. Dr. Clark said the method he had employed with the Kromayer light in the treatment of port wine nævus was to use the thickest blue obturator which was manufactured and to give very prolonged exposures with the obturator pressed firmly against the lesion. This necessarily implied covering only a small area at any one time, and the process was a long one. This patient had been under his care for some months and she was very much pleased with the results. Another interesting point in the case was that the patient was prone to freckles, and in some places the freckles had been removed, leaving a rather sharp outline. It may be that it will be found that the light can be employed to remove large freckles. An important point in

using the Kromayer lamp was that after a certain number of exposures, the exposures have to be prolonged or increased 50 to 100 per cent., and finally the lamp has to be reblown, as the quartz arc became clouded and most of the ultra-violet rays were obstructed or filtered out. This might possibly explain the difference in results noted by different observers.

DISCUSSION.

DR. POTTER said that the case showed a very fair result.

DR. JACKSON said that the result was very good. There were certainly possibilities in the lamp. He had experimented with it during the last six months. In one case of a small *nævus* near the eye he had obtained improvement. He had not been able to get with one treatment such results as had Dr. Clark. One disadvantage of the lamp in these cases was that it produced a more or less large blister, in this reminding one of the action of freezing with CO_2 . Its advantage over freezing was that it was painless. The quartz lamp was said to be rich in ultra-violet rays, and to kill many kinds of microorganisms. He had found it useful in the treatment of acne, preferably by using the white light. In treating acne, the aim was to cause a certain amount of scaling of the skin, and by lotions, etc., to exert an anti-parasitic action upon it. By exposure of the skin to the action of the white light at a distance of three or four inches, and for two or three minutes, we caused the skin to exfoliate freely, and employed any parasitic action the light may have. The patient was treated every seven to ten days, when the skin had returned to normal, and in the meantime was spared all the bother of making applications to the skin. During the past month, he had experimented with the Alpine Sun Lamp, a modification of the Kromayer lamp, in the treatment of all sorts of loss of hair, and of dandruff. The results were encouraging, but not enough time had elapsed to report on the end results.

DR. TRIMBLE said that he had seen this patient before and had complimented Dr. Clark on the result then. If he understood correctly, the fine black lines resembling black venules, which appeared soon after treatment, cleared up later and left the area white. It seemed possible that they were due to the coagulation of the blood in the capillaries. It was reasonable to suppose that absorption might take place and the small blood vessels show up in the affected area, the same as before treatment. Had Dr. Clark seen any recurrence of these areas that had been treated?

DR. MACKEE said that this was a case of extensive, but very superficial vascular *nævus* which had been somewhat improved by the Kromayer treatment. In Dr. Fordyce's clinic several similar cases had been temporarily improved, but not a single case had been cured. In fact the speaker had never seen a *nævus* completely eradicated by the Kromayer lamp. Cases had been shown at the various society meetings that depicted an improvement, but not a cure. This was true, also, of lupus erythematosus. At Dr. Fordyce's clinic a few cases had improved considerably, only to return to the original condition. Nor had the speaker seen a single case of lupus vulgaris cured by this method. Recently a series of cases of lupus vulgaris were being treated with the Kromayer lamp after thorough dehæmatization with adrenalin and the results had been encouraging. Cases of lupus erythematosus and vascular *nævus* were also to be treated in this manner.

A series of cases of acne vulgaris was also treated with the Kromayer lamp. The results proved that although acne could not be cured by this treatment alone, nevertheless the lamp was of decided advantage as an adjuvant. In alopecia the hyperæmia resulting from the application of actinic rays should be beneficial. In inveterate patches of eczema and psoriasis prolonged treatment caused the lesions to disappear. In isolated patches of hypertrophic lichen planus, also, the lesions disappeared under intensive treatment, but the speaker

felt that the same results could have been obtained in a much shorter time and with less expense, discomfort and loss of time, by other methods. The speaker said that although he was not enthusiastic about the lamp it was certainly a useful therapeutic agent and, perhaps, longer experience would make it still more valuable. But he did think that the reports in the literature and in society transactions regarding the efficacy of the lamp were entirely too one-sided and lacked confirmation. The speaker was, of course, perfectly willing to take Dr. Clark's word regarding the complete cures, but for scientific purposes he would suggest the presentation of completely cured cases together with photographs of the condition before treatment was instituted.

DR. CLARK said that the fine blue tortuous lines of which Dr. Trimble had spoken became evident in the port wine nævus about twelve to twenty-four hours after the exposure to the Kromayer light. They appeared like little black worms running all through the field before the blister appeared, and apparently this must happen before there was any whitening. In all probability it was due to the coagulation of blood in the small capillaries, and it would seem as though that was the way the Kromayer light produced its results.

The speaker said he could not recall a case in which the port wine nævus had returned after a sufficient number of exposures had been made. Certainly, in some of the very deep-seated cases the results were not very good, but in the superficial cases they seemed to be very satisfactory. He hoped to be able to clear up this case. Certainly he knew of no other means of producing so much of a result as was shown in this patient in a reasonably short space of time. He had also some cases of lupus vulgaris that were well after exposure to the Kromayer light, and had remained well for a year. He had recently seen one patient who had had a very exaggerated relapse of an acute lupus over the face, after she had been well for six months following treatment by the Kromayer light, but they were distinctly new patches of lupus erythematosus. He did not know that such treatment would prevent another outbreak.

The results were very slow and a number of treatments were required, but he had come to consider the Kromayer light a perfectly safe procedure—very different from the X-ray. The patients were given very long exposures, running up from forty minutes to an hour. It was also noticeable that the results were obtained only when the lamp was clear. There was some imperfection in the mercury preparation or some reason why the quartz glass became clouded, and then the lamp was useless and had to be rebrown. The Hanovia Chemical Company will, however, provide another lamp at once.

DR. WHITEHOUSE said that Dr. Clark had treated a number of cases of various kinds which had been sent up from the hospital—lupus erythematosus, lupus vulgaris, and nævus—and he had seen some of them from time to time, although he had not followed them as closely as Dr. Clark had done. Certainly one or two of those he had seen seemed to be clinical cures, one of them being a case of lupus vulgaris and another a small sized port wine nævus. A case of lupus vulgaris on the arm of one of his own private patients also seemed to be cured—as far as lupus vulgaris could be cured. It may relapse. Dr. Whitehouse said he did not think any of these cases had been followed long enough to judge positively that they were absolutely cured, although they were clinically cured and had so remained for a year. He hoped Dr. Clark would get hold of some of these cases and present them before the Society. He felt that there was great potency in the lamp. Possibly some of the failures that had been reported were due to lack of attention to the clouding of the quartz arc, for when that occurred there seemed to be no reaction to speak of. There certainly seemed to be a field and a future for this light, for with it one could obtain results in these superficial nævi that could not be obtained with anything else.

DR. DADE referred to the clot of which Dr. Clark had spoken and asked where it appeared.

DR. CLARK replied that it appeared like fine lines of clotted blood in the field. If he should attempt to make a picture of a port wine nævus just after treatment, he would first show an erythema, and then with a fine bristle brush he would trace these dark worm-like lines over it. It would seem that the blood in the minute blood vessels became clotted. The appearance gave the impression of thrombosed capillaries just beneath the skin.

DR. SHERWELL said that he had tried various ways of treating these nævi and had met with moderate success, which he had described long ago—by making a bunch of grooved harness-maker's needles and with them wounding these minute capillaries and creating slight scars. He had removed many small nævi in that way, and had reported the method in the *Archives of Dermatology*.

CASE FOR DIAGNOSIS. (PSEUDO-PELADE?) Presented by DR. WILLIAMS.

The patient, Matthew B., was a boy, 6 years of age, whose previous history was irrelevant. Last summer he had an itching eruption of the skin (which was stated to have been epidemic at the time). This was cured by the use of a dark salve, smelling of tar. The patient had had no other skin disease. About the end of August, yellow crusts were noticed in the scalp, which had persisted ever since, excepting when altered by treatment. Under treatment with 5 per cent. white precipitate ointment, only bald spots and scars remained visible. Under vaseline treatment, yellow crusts developed on some of the spots, and sometimes swelling.

When presented, the patient had scattered areas of atrophic skin over the scalp and in some places depressed scars. Papules formed no part of the disease. On the removal of the crusts, sometimes small punched-out ulcers were found. The hairs had been examined for fungi, but none had been found. The case was presented for diagnosis; it was apparently a pseudo-pelade, or a condition belonging to that group, but a more definite diagnosis was desired.

DISCUSSION.

DR. TRIMBLE said there was no question but that the case was a folliculitis of some kind, although it was different from the ordinary pus cases seen in the dispensary. There was a pus infection, but the peculiar feature was that in certain places these pustules seemed to coalesce, forming a larger area, which was followed by atrophy.

DR. FORDYCE said that the case impressed him as a possible streptococcus folliculitis, with secondary alopecia.

DR. JACKSON also thought it was a folliculitis.

DR. GEORGE H. FOX thought the condition was inflammatory. As it was a folliculitis and produced an area of atrophy, he would call it a folliculitis decalvans, although it differed somewhat from cases which he had photographed. He thought the condition would go on from bad to worse and in time present a typical picture of folliculitis decalvans.

SCLERODERMA WITH ATROPHY. Presented by DR. POTTER.

The patient was a woman, 51 years of age, and the case was presented on account of its peculiar history. There was present a scleroderma which, according to the patient's statement, first made its appearance fifteen years previously, on the right forearm. It extended very little until about three years ago, when first the whole right arm, then the lower limbs, and then the other arm were affected. The patient claimed that she had had the lesions on the elbows since birth, but had no further extension up to the age of 35, after which they extended slightly up to three years ago.

DISCUSSION.

Dr. FORDYCE agreed with the diagnosis.

Dr. TRIMBLE also agreed with the diagnosis, and suggested that it belonged to the group of cases called *acrodermatitis chronica atrophicans*.

Dr. G. H. Fox objected to the term *acrodermatitis chronica atrophicans*. If one had chilblains on the fingers and toes, he said, it would be an *acrodermatitis*, but to apply such a term to an eruption of the thighs and arms was as absurd as to call a case of psoriasis of the knees and elbows an *acrodermatitis*. Instead of calling this case *scleroderma* with atrophy, he would call it atrophy with mild *scleroderma*. A number of cases had been reported before the Society under the name of diffuse atrophy of the skin, etc. An erythema usually preceded the atrophy, and there was often a considerable amount of *scleroderma*, but the progressive atrophy was the main feature of the disease.

Dr. WISE called attention to the fact that the term *acrodermatitis* was applied to those cases in which the atrophy was preceded by visible lesions of inflammation, infiltration, and tumor formation. In the case presented, the *scleroderma*-like changes seen over the ulnar bone took place at a time subsequent to the atrophy of the back of the hands. In making the diagnosis of *acrodermatitis chronica atrophicans* in an advanced case of the disease, the previous history regarding primary infiltrations was to be taken into consideration. The term diffuse idiopathic atrophy was limited to examples of the disease in which the atrophic changes were not preceded by microscopical evidences of inflammation and infiltration.

Dr. MacKEE suggested massage as a therapeutic possibility. He had recently seen a case at Dr. Fordyce's clinic in which there was a diffuse *scleroderma* of the abdomen and chest. Massage of the affected parts was given twice weekly, and in a few weeks the *scleroderma* had almost disappeared. The woman had also taken thyroid extract, both before and during the massage treatment, but there had been no improvement until the massage treatment was instituted.

Dr. DADE told of a case which had been treated with green soap and friction and with deep massage, that had greatly improved.

Dr. KINGSBURY did not think the case was benefited by the massage or by the thyroid extract, though there may have been some slight improvement. The condition sometimes improved spontaneously. It was quite distinct from the ordinary *scleroderma*.

Dr. FORDYCE asked what reason there was for thinking that the man had two distinct affections. Atrophy was a frequent stage of *scleroderma*, and he was inclined to think that Dr. Potter was right and that it was a *scleroderma* with subsequent atrophy.

MYCOSIS FUNGOIDES. Presented by Dr. MacKEE for Dr. FORDYCE.

The patient was a married woman, 40 years of age, who had been under observation for a few days only in Dr. Wise's service at the Vanderbilt Clinic. The patient was the mother of six healthy children; she had had two miscarriages. Twenty years ago she noticed an eruption on the extensor surfaces of the knees and elbows. The lesions did not spread nor cause any inconvenience, although they were constantly present until three years ago, when the eruption began to spread and gradually become generalized; at the same time the skin became intensely pruritic. During the past three years the patient lost 50 pounds in weight.

When presented to the Society the patient exhibited a generalized, dark-red eruption consisting of discrete and confluent, infiltrated plaques which were covered with a moderate amount of scalliness, not, however, of the micaceous variety. In size, the plaques ranged from that of a dime to that of a palm and most of

them were configurate—annular, gyrate, serpiginous, etc. The scalp and face were affected. On the chin there was a group of confluent annular lesions with a scalloped edge which markedly suggested syphilis. Here and there, over the body, were split-pea to dime-sized tumor formations. The lymphatic glands were enlarged.

DR. JACKSON agreed with the diagnosis, in spite of the striking resemblance of the case to psoriasis. The latter disease did not present the thickened masses seen in this case. The duration of the case for twenty years, without killing the patient, was exceptional. From the general distribution of the lesions he would be inclined to think that it was one of those cases of mycosis fungoides following psoriasis, as had been reported by Howard Fox and others.

DR. DADE said it seemed to him but an exaggerated case of psoriasis. The duration—twenty-two years—would account for the unusual thickening over the legs. He saw no tumors, and he thought the entire back was but typical of psoriasis. It was not impossible for psoriasis to itch—and as badly, too—as this did. Further, if this were mycosis fungoides in the tumor stage, it wouldn't itch. It was only in the so-called pre-mycotic stage that the itching was marked.

DR. ROBINSON thought it was a case of mycosis fungoides. There was present a subepidermal condition which should not exist in psoriasis.

DR. KLOTZ agreed with the diagnosis of mycosis fungoides.

DR. SHERWELL also agreed with the diagnosis of mycosis fungoides. There was a good deal of tumor formation present in some places, and on the arm above the wrist, and further up, were the same thickened or infiltrated tissues. He could not look upon it as psoriasis.

DR. TRIMBLE thought the case bore some resemblance to psoriasis, especially on the legs, but agreed with the diagnosis of mycosis fungoides on account of the deeply infiltrated places. He had had one patient with premycosis which existed for over twenty years without any tumor formation. The case was watched for five or six years, before the patient died of pneumonia.

DR. KINGSBURY said that some of the lesions suggested psoriasis, or even syphilis, but that it was not unusual in mycosis fungoides to resemble some other disease, and he thought the diagnosis of mycosis fungoides was the correct one. He suggested that a Wassermann test be made at an early date, and said that even though it should prove negative the patient might improve under antisiphilitic treatment.

DRS. CLARK, WILLIAMS and POTTER agreed with the diagnosis of mycosis fungoides.

DR. WINFIELD thought that with all the induration present it could hardly be a psoriasis, and as Dr. MacKee had stated that there was a great deal of itching, mycosis fungoides would seem to be the correct diagnosis, though there was just a possibility that the conditions might be syphilitic. As Dr. Kingsbury had suggested, the case was very suggestive of syphilis, but there might be two conditions present.

DR. FORDYCE said that it was conceivable that there had been an antecedent psoriasis and that it had passed into mycosis fungoides. We had eczema-like eruptions which preceded it. He further said that careful examinations would be made and the case reported upon later.

DR. HOWARD FOX thought that the presence of itching and the location of the eruption were not incompatible with the diagnosis of psoriasis, but that the presence of nodules ruled out this disease. He agreed with Dr. Fordyce that the eruption of mycosis fungoides might have been preceded by psoriasis. Dr. Fox had recently reported a case of mycosis fungoides following psoriasis. In collecting 160 cases from the literature, he had found that psoriasis had preceded the eruption of mycosis fungoides in about a dozen cases. Most of the premycotic eruptions that had been recorded were generally described as being urticarial, erythematous or eczematous.

Dr. MacKEE said that there were certain lesions that resembled syphilis, but he thought that this disease could be ruled out clinically on account of the long duration, the intense itching, the combination of plaques and tumors and the total lack of concomitant symptoms of syphilis.

At first glance, the numerous configurate, scaly lesions all over the body gave the impression of psoriasis. But the speaker thought that this disease could be excluded on account of the infiltration, the total absence of micaceous scaling, the intense pruritus and the tumor formation.

The speaker thought the diagnosis of mycosis fungoides was established, but the interesting question was the possibility of an antecedent psoriasis. There was no history of a psoriatic family tree, but the presence of scaly lesions in the regions of the knees and elbows for so many years was somewhat suggestive. The speaker said that histological and serological tests would be made and the results reported at the next meeting of the Society.

CASE FOR DIAGNOSIS. (SQUAMOUS AND VITILIGOID ERUPTION.)

Presented by Dr. WILLIAMS.

The patient, A. S., was a negro, 38 years of age, and married. The disease began two years ago. The lesion first appeared as a small firm papule which enlarged to about $\frac{1}{8}$ inch in diameter and then flattened out, losing its pigment at the same time and leaving a pale area from $\frac{1}{4}$ to $\frac{1}{2}$ inch in diameter. The itching was rather severe up to this fall, but was now much less. There had never been any suppuration. The patient denied all venereal disease, and the Wassermann test was negative on November 13, 1914. The patient had been troubled with constipation for years, and had had severe and persistent headache. He suffered from occasional drowsiness in the daytime, and slept well at night. He lost his left leg in 1890, while coupling a railroad car. He stated that he felt pretty well, but tired quickly and his muscles ached, also that he had slight dyspnoea on exertion.

He was born in Springfield, Ohio, and had spent most of his life in the North; had never been in Louisiana. He was in Birmingham, Ala., for two years (1886) and some five or six years ago was on the Florida coast for two years or so.

At the time of presentation, there were on the face, neck, shoulders, upper extremities and thighs, a few small papules and leucodermic spots. The lymphatic glands were enlarged, and the ulnar nerve was enlarged on both sides.

DISCUSSION.

Dr. WHITEHOUSE said that he had not examined the case very carefully, but would like to know if syphilis had been excluded, for he was inclined to think it was a case of syphilis.

Dr. WINFIELD said that when Dr. Williams presented the case he seemed to touch upon the possibility of a diagnosis of leprosy, but it did not seem like that and he was inclined to agree with Dr. Whitehouse that it might be a syphilitic condition, in spite of the negative Wassermann. The negative history, with a negro, was of no value at all. A number of Wassermann tests should be made before syphilis was excluded.

Dr. JACKSON suggested that the scales be examined, as the condition might be due to parasites. He had seen a white woman whose body was covered with brown spots and scales, very much as this patient presented white spots and scales. It was known that when a negro had chromophytosis he had white instead of brown spots. It was noticeable that whenever the patient scratched he caused broad, white, scaly tracts, showing that the disease was of a superficial character. In his white patient, the scales were full of *microsporon minutissimum*, the parasite of erythrasma.

Dr. SHERWELL spoke of the case as having been described as papular in the

beginning, and thought that it might be a variety of atrophic lichen with depigmentation. The clinical picture was very unusual, and he had never before seen a case like it. That was the only thing that suggested itself to him—the want of pigmentation occurring as a phenomenon from some peculiarity of the individual.

Dr. G. H. Fox did not think the case looked like syphilis or leprosy or a syphilitic eruption, but it seemed to him that it might be a parapsoriasis in a negro.

Dr. WISE thought that Dr. Jackson's suggestion that the lesions might be due to a vegetable parasite should be seriously considered. During a recent trip to the United States of Colombia he had seen many similar dermatoses among the natives there. These were examples of *caraate* or *pinta*, an epidermophytic disease said to be due to a variety of *aspergillus*. The malady was extremely common in Mexico and the American tropics. In temperate climates, the *aspergillus* may cause a parasitic eczema of the external auditory meatus. In Colombia he had observed three types of *caraate*. The case presented resembled the early stages of the first type, i. e., a loss of pigment in the affected areas. Should the process continue, a true leucoderma may be the result. The *aspergillus* causing the dermatosis was said to attack the pigment cells, destroying them. The disease was bilateral, symmetrical, and the hands, feet, and neck were areas of predilection.

Dr. WISE suggested that a microscopic examination be made of the scales and of a piece of the affected tissue.

Dr. HOWARD FOX agreed with Dr. Whitehouse that the possibility of syphilis should be seriously considered in spite of the long duration of the eruption and the negative Wassermann reaction. He had seen many papulo-squamous syphilides among negroes at the Harlem Hospital in which the eruption—especially upon the legs—presented a different picture from the usual eruption in white persons.

Dr. WILLIAMS said that when the case first came under observation, syphilis was considered and the Wassermann test was made, but proved negative. The long duration of the condition, the absence of infiltration, and the wide spread of the disease over the body were against syphilis. A syphilitic lesion of such a long duration would not be so widely disseminated. The papules were not a prominent part of the disease. The man had stated that it began as a papule and then faded. There were very few papules, mostly on the face, and it did not seem certain that they formed part of the disease. The man had a rather coarse skin. The glands were enlarged, which suggested syphilis, but the enlargement along the elbow suggested the ulnar nerve. It was rather a chain, which could be traced for two or three inches. A diagnosis of leprosy was considered, but was ruled out on account of the negative Wassermann, the absence of anæsthesia, the absence of definite large papules and nodes, etc. When the patient first came to the dispensary the papules were larger and the condition seemed more suggestive of that disease. The question of its being parasitic was decidedly worthy of consideration, and he would have the scales examined and endeavor to get cultures. He still felt very much in the dark about the condition, but Dr. Fox's suggestion of its being parapsoriasis in a negro appealed to him more than anything else.

BLASTOMYCOSIS. Presented by Dr. KINGSBURY.

According to the patient's statement, the lesions had existed for six months, the large one on the face appearing first and the others later. The condition presented the appearance of a case of blastomycosis.

DISCUSSION.

Drs. CLARK AND FORDYCE agreed with the diagnosis of blastomycosis.

Dr. WILLIAMS said that the clinical appearance suggested a bromide eruption.

DR. POTTER said that it was a very interesting case and that the clinical appearance was that of a mycosis, although perhaps the color was not so violaceous. That might be due, however, to the short duration of the lesion. Clinically it seemed to be a blastomycosis, as the culture had proven it to be.

DR. WINFIELD said that if the blastomycete had not been found in the lesion he would think it a bromide eruption.

CASES OF PSORIASIS, SHOWING RESULT OF TREATMENT WITH AUTOGENOUS SERUM AND CHRYSAROBIN. Presented by DR. HOWARD FOX.

The following two cases were presented to show the apparent value of injections of autogenous serum in increasing the action of chrysarobin ointment. Both were private patients who were able to give an intelligent and exact account of their experience with chrysarobin ointment in former attacks of psoriasis. In these as in the other forty-seven cases of psoriasis which Dr. Fox had treated up to the time of presentation with autogenous serum, no improvement had been noticed from the injections of the serum alone. The injections, in his opinion, simply served to increase the activity of the chrysarobin ointment in causing the disappearance of the lesions, and producing this effect, furthermore, with less than the usual amount of dermatitis.

CASE 1. Mrs. S. was a woman, 37 years of age, who had suffered from a slight amount of psoriasis on and off for twenty years. During the past three years, however, in which time she had borne two children, the disease had been rather severe and obstinate in character. This patient was one of a series of cases of psoriasis recently reported (see *Jour. Am. Med. Assn.*, 1914, lxiii, p. 2190). The attack for which Dr. Fox treated her had existed for one year and consisted of nummular and diffuse patches of moderate thickness, situated mostly upon the back and forearms. She had previously been treated by his father, Dr. George Henry Fox, with chrysarobin, vigorously applied by an attendant. Very little benefit was obtained, the patient being apparently resistant to the action of chrysarobin. She was then given three injections of autogenous serum, averaging 18 cc., within a period of twelve days, ending February 2, 1914. After this the chrysarobin treatment was begun and was followed by a complete disappearance of the eruption in three weeks, with the exception of eight pin-head sized spots. Following a second series of serum injections and chrysarobin inunctions, all except three of these spots disappeared. These were treated with the silver nitrate stick and soon cleared up, the patient remaining entirely free of psoriasis up to the time of presentation.

CASE 2. Mr. A. was a man, 41 years of age, who had suffered from psoriasis for twenty years, during which time he had never been entirely free from the disease. The eruption with which he was afflicted was of four months' duration and consisted of about twenty-five dollar to palm sized, deeply infiltrated patches on the trunk and extremities. He had been previously treated by chrysarobin ointment, for long continued periods, under the direction of experienced dermatologists. While he had formerly improved under the use of chrysarobin, the eruption had never cleared up entirely except under the combined serum and chrysarobin therapy. Furthermore, the improvement had invariably been much slower than under that method of treatment. The patient was given four injections of autogenous serum of 25 cc. each, within the space of a week, beginning Nov. 16, 1914. A ten per cent. ointment of chrysarobin was then used for two months, during which time he was also given four more injections of serum, averaging 18 cc. At the end of this course of treatment the patient was free of psoriasis for the first time in twenty years.

DISCUSSION.

DR. KINGSBURY was rather sceptical in regard to the serum injection treatment. He had found that many cases of psoriasis were benefited by the withdrawal of a certain amount of blood, and had frequently applied this method with satisfaction. He thought that many of the good results following the injection of serum were due to the fact that the patients had taken more pains with their treatment.

DR. MACKEE said that Dr. Fox's results corresponded with those obtained at Dr. Fordyce's clinic by Dr. Hilario, of Manila, who had published an *Arbeit* on the subject. In psoriasis it was found that the injections so modified the system or the disease that recalcitrant, inveterate lesions quickly responded to weak chrysarobin ointments. The quickest results were obtained by employing the chrysarobin during the injections, instead of waiting until a series of injections had been completed. Unfortunately, the results were not permanent. One or two patients had been simply bled, as suggested by Dr. Kingsbury, but no benefit was noticed. The injections had been employed also in dermatitis herpetiformis, pemphigus and epidermolysis bullosa, with encouraging results.

DR. FORDYCE said that during the past year the serum treatment had been used in a large number of cases of psoriasis at the City Hospital. He was convinced that after a series of autogenous serum injections the eruptions yielded more rapidly to chrysarobin applications. To complete a series of five or six autogenous serum injections required about a month. As time was a very important consideration in the treatment of hospital cases, he believed that the cases of psoriasis were more quickly cured by immediately instituting the chrysarobin treatment, independent of the serum injections. In private practice, however, where time was less of a consideration, there was, in his opinion, a distinct indication for this method of treatment. A year ago he treated a patient with dermatitis herpetiformis which involved almost the entire cutaneous surface as well as the mucous membrane of the mouth. The patient had suffered from the trouble for a long time, and had been compelled to give up her position as a stenographer. After the first two injections the eruption was distinctly worse, but after six had been given the affection yielded rapidly to the local applications of calamine lotion. After two months she was given a second series, and after eight or ten months a third series. The eruption had practically disappeared and she had resumed her occupation. In pemphigus the serum treatment produced no effects in several cases which were treated. In leprosy, generalized eczema and eczematoid dermatitis, the results were indefinite.

DR. WINFIELD said that his experience had been similar to that of Dr. Fordyce. When the autogenous serum was used without any external application, there seemed to be but little, if any, effect upon the skin lesions. The best results seemed to be obtained when both the serum and chrysarobin ointment were used. He agreed with some of the gentlemen that a mild chrysarobin ointment was as beneficial as the stronger ones—say from two to five per cent. He had used the serum treatment in eczema and dermatitis herpetiformis; in the latter disease it seemed to have had a more lasting effect than in any other.

He was trying this treatment in a case of recurrent dermatitis. This patient was a man, about forty years of age, who had been in the hospital a number of times during the past two years, suffering from attacks of acute dermatitis, involving the whole body. So far he had received only two injections, but the effects of the two injections seemed to be far better than any other treatment that had been previously instituted.

DR. TRIMBLE said that he was doing some of this work, and could confirm what Dr. Winfield had said, i.e., that the autogenous serum alone produced no effect. He had not, however, done the work long enough to know whether the application of weak chrysarobin was equally as good as strong applications after

a certain number of serum injections had been given. He had recently started a few controls, in patients who refused to take the serum treatment, and he had noticed that a number of them had improved markedly under a 2 per cent. chrysarobin ointment, without the autogenous serum; and he had wondered whether any of the men had used weak chrysarobin without the autogenous serum. Cases of psoriasis frequently cleared up with white precipitate ointment and at times without local treatment; whether the injections of serum so influenced the skin that these applications acted better and more rapidly, would be a hard question to decide.

DR. G. H. FOX said that it was well known that many cases of psoriasis got well suddenly of their own accord, but that others would not do so, even after treatment. He remembered when the only treatment for this condition was with the oil of cade, and sometimes it would take months and years to effect a cure. It was a great advance when chrysarobin was introduced, and the new autogenous serum treatment seemed to be a still further advance. The first case shown he had treated for psoriasis since she was a young girl; at times it had been relieved, but recently it had proved very obstinate. A short time ago, before her last child was born, she had been treated while in bed under the care of a trained nurse, who carried out the directions carefully. Chrysarobin was used, and no effect whatever was obtained. It was thought that perhaps after childbirth the case might prove more tractable, but it did not. He had been very sceptical about the serum treatment, but the result in this instance was very satisfactory, and he had since seen a number of other cases showing even more remarkable results.

DR. ADAMS (by invitation) said that when he first began to teach dermatology he had treated one part of a patient with white precipitate ointment, another part with chrysarobin, another with salicylic ointment, and the fourth part was left untreated, except for Fowler's solution, which was given internally. The part treated with chrysarobin cleared up first, then that treated with salicylic acid, and then that treated with the white precipitate, and the last cleared up under the arsenical treatment. He was inclined to believe that something was wrong with the blood in psoriatics, and it was quite possible that the serum treatment modified the blood and improved its condition, so that the skin was more susceptible to local treatment. He had never used a 10 per cent. chrysarobin ointment, and had cautioned his students against using strong ointments. He had obtained very good results from a prescription that had been given to him by a missionary doctor in Tripoli: 2 per cent. chrysophanic acid; 2 per cent. salicylic acid; 2 per cent. pyrogallie acid; 2 per cent. white precipitate; lanolin, vaseline and olive oil, each 30 grams, making 100 grams. It made into a light, pasty ointment and gave better results than anything else he had tried. It sounded like a shotgun prescription, but the results were satisfactory. He had also used CO₂ snow in psoriasis, and to his surprise the spots had not returned; there was some pigmentation, but no return of the lesions. He intended to try the serum treatment when he returned to Beirut.

DR. SCHWARTZ said that he had himself had no experience with autogenous serum in these cases, but that he was familiar with the case of the second patient presented, having seen him half a dozen times in the course of about two years. It was a very extensive and inveterate type of psoriasis. The eruption had disappeared once under the free use of Beebe's thyroprotein, and had remained absent for over a year, although no thyroid was taken for some eight months. The result of the autogenous serum treatment was, however, striking, and any method of treatment which would influence a psoriasis of that type, even though followed by a recurrence, seemed to be worth extensive trial.

DR. ADAMS said that he did not think the condition was so common in the Levant as in this country, only about 2 per cent. of his cases suffering from it.

DR. HOWARD FOX, in closing the discussion, referred to Dr. Kingsbury's objec-

tion that the favorable results might have been due solely to the blood letting. In his recent report upon the treatment of 28 cases of psoriasis by a combination of chrysarobin and serum injections, Dr. Fox had mentioned this point. He had quoted Spiethoff as authority for the fact that the beneficial action had not resulted from the venepuncture alone. He was engaged at present in trying to decide this question from his own experience by comparative tests. There seemed to be a difference thus far in favor of the serum injections, but his experiments had not been continued long enough to be conclusive. In regard to the work of Dr. Hilario, Dr. Fox said that he, too, was giving a larger number of injections than he had given at first. There had been relapses and he did not feel that there was any reason to expect that the serum treatment would prevent relapses. He felt that the value of the method was an aid in getting rid of the eruption in certain obstinate cases. Dr. Fordyce had spoken of the necessity of treating certain cases without unnecessary delay. In answer to this, Dr. Fox saw no objection to beginning the local treatment with a strong chrysarobin ointment without any delay. Dr. Fox's experience coincided exactly with that of Dr. Winfield, in not seeing any improvement whatever from the injection of serum alone, although Gottheil and Satenstein had reported such results. In his experience, Dr. Fox had seen a beneficial action only from the serum when used in combination with chrysarobin. Dr. Trimble had spoken of using a weak as opposed to a strong percentage of chrysarobin. Dr. Fox thought that the vigor with which the ointment was used was of more importance than its strength. He felt that it was extremely important to rub the ointment into the skin as vigorously as possible. Dr. Fox said that it was difficult to explain the mode of action of the serum injections. We knew very little about this, as, indeed, we knew little of the essential cause of psoriasis. In addition to nearly fifty cases of psoriasis which he had treated with serum and chrysarobin, he had treated a number of other diseases of the skin by serum alone. In a case of bullous dermatitis herpetiformis a brilliant result had been obtained, while in several other diseases of the skin the treatment had proved an absolute failure. He would discuss these results on a subsequent occasion.

CASE FOR DIAGNOSIS. CHRONIC BULLOUS ERUPTION IN A CHILD OF TWO YEARS. Presented by DR. HOWARD FOX.

The patient, M. G. (from the Harlem Hospital), was a girl, 2 years of age, born in the United States. Her mother had died of consumption and was said to have had a similar eruption, from which she had suffered all her life. The patient was an apparently normal baby at birth, except that she was very small. The eruption first appeared when she was three weeks old and had continued up to the time of presentation, being somewhat worse during the past few weeks. Aside from the eruption, the child had always been in fairly good health. She had been rather backward in teething and in walking and was just beginning to talk.

The eruption was situated chiefly upon the face, hands and feet. It consisted of vesicular and bullous lesions which were the size of a pin-head at the outset and would then become larger, their maximum size being that of a silver quarter. Some of these lesions contained clear fluid, others were pustular, and a few were hæmorrhagic. The lesions, if untouched, flattened and formed crusts which fell at the end of two to four weeks. The eruption was most profuse upon the palms and soles. The family of the child felt sure the lesions did not result from traumatism. As a result of scarification, to obtain a specimen of blood and of traumatism of the back purposely produced, there had been no formation of bullæ or any reaction whatever. There were no stigmata of syphilis and the Wassermann reaction was negative. There had never been any benefit from any general or local treatment. The child had never taken any medicine except for an occasional cold.

DISCUSSION.

DR. ADAMS (by invitation) said that it had the appearance of a very severe case of bullous impetigo contagiosa, of which he saw a good deal. It did not look like pemphigus, nor like epidermolysis bullosa hereditaria. He had seen a case of the latter develop in a child, as this one. A brother, a young fellow of eighteen, had come to him with a case of epidermolysis bullosa hereditaria, and wanted to know what to do for the condition, for whenever he handled a shovel or hoe his hands were covered with blisters, or when he walked much he would have blisters. All the boys in his family, three of them, had it, but the girls were free. The youngest was a child, two and a half years old. The mother suffered from the same condition.

DR. G. H. FOX said that Hebra claimed there was no such thing as acute pemphigus. We have seen many cases of bullous eruption in children presenting the clinical features of chronic pemphigus, but which disappeared in a short time. He had shown such cases before the Society which were called pemphigus. When this child was first seen, he thought it was a case of hereditary syphilis, but the Wassermann test proving negative he had come to the conclusion that it was neither contagious impetigo, nor epidermolysis bullosa, nor pemphigus neonatorum, but a case to which the name of pemphigus could justly be applied.

DR. WISE thought that epidermolysis bullosa should at least be considered.

DR. MACKEE said that the location of the lesions would suggest epidermolysis bullosa. The fact that a history of a traumatic cause for the bullæ was lacking was not especially significant when one remembered that there were, apparently, cases of acquired epidermolysis bullosa in adults when the disease at first simulated pemphigus. The speaker was familiar with several such instances. He had seen cases where it was impossible to decide between pemphigus and epidermolysis bullosa. If we admitted that traumatic lesions could occur in pemphigus and spontaneous bullæ develop in epidermolysis bullosa, then there would be no sharp line of demarcation between the two affections. There would be the possibility, too, of a transitional stage between two diseases possessing an intimate relationship.

DR. HOWARD FOX, referring to the suggestion that it might be some form of contagious impetigo, said that none of the children who had been exposed to this patient had developed any bullous or other lesions of the skin. No cultures had been made as yet, though he hoped to have some made to determine whether the bullæ were sterile or contained some organisms. Syphilis was apparently ruled out. It was not a bullous type of dermatitis herpetiformis, as there had never been any itching. Whether or not it was an epidermolysis bullosa, he could not say. Traumatism produced absolutely no bullæ.

DR. FORDYCE said that because of lack of more definite knowledge regarding ætiology, he would call the case one of epidermolysis bullosa. Of course, these names meant little, but they served to label certain clinical types, and were therefore useful. Whether these cases depended upon some change in the histological structure of the skin, or whether they were skin reactions due to hypersensitiveness to some irritant was, of course, impossible to say.

ERYTHEMA TOXICUM (CIRCINATE). Presented by Dr. ROBINSON.

The boy was an only child, 11 years of age, and had been under observation for about three weeks. Seven years ago he had had a similar attack, excepting that it was more acute and lasted seven months. The eruption was on the face and arms, and on the lower limbs below the knees. The attack began six weeks ago, and none of the lesions had disappeared, though they had shaded off a little. The case will be fully described after the disease has disappeared and further observations made, as the features were unusual.

TUBERCULOUS ULCERATION OF THE LEG. Presented by DR. G. H. Fox.

The patient had previously been shown before the Society by Dr. Fox in April, 1914, when the diagnosis of syphilis was made. Since August, 1913, the young woman had this ulcer on the left calf, with scars in the popliteal space. She had been treated with mercurial plasters, and though the ulcer had improved somewhat, it had not healed, and salvarsan had had absolutely no effect. Dr. Fox said that he was now inclined to agree with Dr. Robinson that the ulceration was tuberculous. It had been extremely painful and discharged freely.

DISCUSSION.

DR. FORDYCE said the case was important, showing close resemblance between tuberculosis and syphilis. It was sometimes impossible to make a diagnosis, if one depended upon clinical signs alone.

DR. CLARKE cited a case of a tuberculous sinus from a gland that had been operated upon by a good surgeon on two or three different occasions. Finally, a rather extensive tuberculous ulceration developed around the sinus, and the doctor referred the case to him for treatment with the Kromayer light, as he had seen some excellent results with that treatment in German clinics. The lesion was healed in four weeks, with alternate day exposures to the ultra-violet rays of the Kromayer lamp, sufficient to produce a mild sunburn.

DR. G. H. Fox said that he had started out with the idea that it was a syphilitic condition, but was now convinced that it was tuberculous, although it had improved temporarily under local mercurial treatment. The ulcer had filled up and healed with the general improvement of the patient. He had seen syphilitic ulceration of the leg that would not heal under mercury and potassium iodide alone, but had never seen the treatment fail when the general health of the patient had greatly improved, as in this case. He had therefore made up his mind that this was not a syphilitic case.

DERMATITIS VENENATA. Presented by DR. WILLIAMS.

Lena M., age 32, single, born in Venezuela, was from Dr. Trimble's clinic. The patient had had no previous skin lesion. Her hair began to turn gray when she was twenty, but there was no great change. On the afternoon of December 22d she had applied a black hair dye. The next morning her face was swollen, and this was followed by reddening and exudation. On December 30th the face was badly swollen, and she went to Bellevue Hospital, where, she says, she was treated for erysipelas. She was in the hospital for fifteen days and was then discharged, at which time there was less swelling of the face, but still considerable redness and some exudation and scaling, especially around the ears. The eruption on the body began while she was in the hospital. The skin of the face, neck, and upper part of the trunk was red and swollen, with considerable scaling near the hair line, and oozing and crusting behind the ears. The inflammation was most intense near the scalp, while lower down the diffuse redness gave way to an eruption in discrete patches, bearing some resemblance to pityriasis rosea.

DISCUSSION.

DR. TRIMBLE said that it was somewhat unusual for the eruption to spread over the body.

DR. ADAMS asked what dye had been used. He remarked that the women of the East invariably dyed their graying hair red with henna. The men used pyrogallol or lead or silver stains.

DR. MacKEE said that he was not altogether in accord with Dr. Trimble's statement to the effect that it was unusual for the eruption to spread over the

body. In the speaker's experience many of these cases of hair-dye dermatitis acted much in the same manner as rhus dermatitis. That was to say, the development of the affection was probably due to a sensitization, possibly through some anaphylactic phenomenon, and the eruption autoinoculable. He had seen a number of instances where a more or less generalized catarrhal or eczematoid dermatitis had followed a simple hair-dye dermatitis of the scalp, forehead, ears and neck.

DR. FORDYCE said that such cases of dermatitis following the use of hair-dyes were not uncommon. Many of them involved the forehead and eyelids, and sometimes they persisted for weeks or months. The red scaling eruption limited to the forehead and eyelids was very suggestive of a hair-dye dermatitis. He had occasionally seen the eruption extend to the neck and upper part of the chest, and in some cases become more generalized. It was a question of individual susceptibility to the irritating agent.

DR. WILLIAMS said that he did not know what dye had been used by his patient. At the beginning of the treatment the hair was very thoroughly washed, to get as much of the stuff off as was possible. Many patients said that the doctor told them not to use water, for fear it would irritate the eczema; in consequence, the irritating substance remained and prolonged the inflammation. It was very important to remove the irritant thoroughly, even at the cost of making the eruption temporarily worse.

DR. KINGSBURY said that one had to be careful about the shampooing of the head, for it would often stir up the eruption, and it would break out a second time after it had subsided.

DR. TRIMBLE said that he had not meant to question the spreading of the eruption over the body, but simply the relative frequency of such an occurrence. Since he had been practicing dermatology he had seen a great many of these eruptions on the face, neck and chest, but rarely one extending over the body.

DR. G. H. FOX said that what Dr. Williams had stated about the effect of washing reminded him of the fact that soap and water, which theoretically would aggravate an inflamed poison ivy eruption, actually relieved it much better than anything else, in his experience. In primrose poisoning, from which he had suffered repeatedly after merely touching a leaf or flower, he could state from personal experience that soap and water produced the same instantaneous relief.

TUBERCULOSIS CUTIS VERRUCOSA OF THE BUTTOCK CURED BY OPERATION. Presented by DR. TRIMBLE.

The patient was a young man, aged 20, born in the United States, of Russian parents. At the age of three, making the duration seventeen years, there appeared on the left buttock a small verrucous lesion, which gradually spread until it reached the size of the palm. He had been treated in various ways with practically no result. About three years ago, X-ray treatment was begun, with some slight improvement, but it soon lost its effect. After this he was given two courses of tuberculin injections, with practically no effect. The case had been shown at various medical meetings, including this Society. The original diagnosis was tuberculosis cutis verrucosa, but during the period of observation a doubt arose as to whether or not we were dealing with a case of blastomycosis. After careful pathological examination, it was determined that the case was one of tuberculosis; and after due consideration, all treatment was stopped, and the patient operated on by curettage and cauterization. There seemed to be a complete recovery.

DISCUSSION.

DR. CLARKE said that it was a most excellent result of a treatment which he himself would approach with much trepidation. He would rather attempt sealing the vessels with the actual cautery.

DR. WINFIELD said he very much doubted that the case was cured, for he had seen cases where the same line of treatment had been pursued where there had been a recurrence of the warty growths along the margins of the scar.

BULLOUS EXUDATIVE MULTIFORM ERYTHEMA. Presented by DR. SCHWARTZ.

The patient was a woman, 66 years of age, who had suffered from her trouble for about four weeks, having sought treatment a few days after its onset. When first seen, the picture was that of an ordinary erythema multiforme. A few days later the bullous character developed, and lately the bullæ had arisen on a non-inflammatory base. The subjective sensations were severe.

ERYTHEMA MULTIFORME BULLOSUM. Presented by DR. TRIMBLE.

The patient was a young man, 24 years of age, born in Austria. Five weeks previously he had had an erythemato-bullous outbreak on the fingers, hands and neck, which healed in two weeks. The lesions, when presented, were both erythematous and bullous in character; some of the blebs were in the centre of the erythematous plaques. They were in the same location as in the previous attack, i.e., fingers and neck. The patient also presented a bullous lesion on the mucous membrane of the mouth. His general appearance was good. His previous history was negative, and there were practically no subjective symptoms.

DISCUSSION.

DR. ADAMS asked if any disturbance of the alimentary canal had been noted. He had seen a considerable number of cases of this condition in Syria. There were practically two seasons: the beginning of the rainy season in October and its end in April, were almost always attended with disturbances of the alimentary canal. It was almost invariable at these changing seasons that the lesion was noted.

DR. TRIMBLE said Dr. Schwartz's patient showed such an extensive eruption that there seemed a possibility it might develop into something more serious than bullous erythema. It rather suggested a dermatitis herpetiformis, though he understood there was no itching. Some of the bullæ, situated on the clear skin without areola, also suggested pemphigus.

DR. SCHWARTZ said that he looked upon his case as an erythema multiforme bullosum, even though there were some features which suggested a pemphigus. Cases such as these two, and Dr. Robinson's, certainly presented a wide field for investigation. Detailed clinical and bacteriological examination of the fæces, blood, etc., might possibly throw some light upon their ætiology.

PIGMENTATION FOLLOWING A PRURIGINOUS ERUPTION. Presented by DR. MACKEE for DR. FORDYCE.

The patient, a middle-aged, married woman, gave a history of having had, 5 months previously, a pruritic eruption which began between the fingers, spread up the arms and affected the axillæ. It then became more or less generalized, but showed a predilection for the buttocks, legs and ankles, upper part of the back and the abdomen. From her description of the eruption it was apparent that there were pustular and crusted lesions. It was assumed, at the clinic, that the antecedent affection was scabies with possible secondary eczema. The patient stated that pigmentation developed as the eruption disappeared.

When presented to the Society, the patient exhibited marked pigmentation over the areas occupied by the previous eruption. The pigment macules ranged in size from a split pea to that of a silver quarter, and occasionally these individual

units would unite to form palm-sized plaques. This was especially noticeable about the ankles.

There was no history of syphilis and the Wassermann reaction was negative. The case was presented as one of pigmentation following a probable scabies.

DISCUSSION.

DR. ADAMS said that the sight of the case carried him back to the East, and he almost felt like talking Arabic. It was not uncommon for such lesions to follow scabies; at least 20 per cent. of his patients suffered from scabies, and many were sent to him from native physicians in the interior, who were supposed to be suffering from all sorts of conditions. Scabies was regarded as absolutely incurable by the Arabs, and the method of life and "herding" added to the difficulty in eradicating it from a family.

DR. HOWARD FOX suggested that lichen planus might have been the pruritic skin disease that had preceded the pigmentation.

CASES FOR DIAGNOSIS IN MOTHER AND DAUGHTER (MONILETHRIX). Presented by DR. CLARK.

The child, from Dr. Whitehouse's clinic, was a healthy girl, 11½ years of age, but rather sensitive and nervous. She was born in this country, of Russian parents. She had apparently normal hair when born, but shortly afterward her hair became short and dry. There was no history of having had crusted lesions on the scalp. Off and on she had had keratosis pilaris lesions on the arms and forearms and on the back of the neck, which were very distinct and closely set, with a nutmeg-grater feeling. She has had no hyperkeratosis of the palms and no keratotic lesions on the back of the fingers, and no amount of dandruff on the scalp. Her face was clear of any lesion when presented.

The mother, who was a native of Russia, had had the same sort of hair and scalp, which had existed since she was a child, and similar keratosis pilaris lesions well up on the back of the neck. The scalp presented somewhat the appearance of an old favus as to the hair, but instead of atrophy the scalp presented a mild keratosis pilaris. There were no other lesions on either patient.

DISCUSSION.

DR. ADAMS said that he had never seen such a condition, and would like to know what the other men thought it was.

DR. MACKEE considered the disease in both the mother and daughter to be monilethrix. Dr. Rosen, of Dr. Fordyce's clinic, had collected seven cases of the disease, which were being made the basis of an article on the subject. A study of these seven examples of the disease had caused the speaker to become acquainted with the affection. The condition was hereditary, began in early life, and was associated with coarse, brittle, more or less lustreless hair, atrophy of the scalp, and a follicular involvement clinically identical to keratosis pilaris. Dr. Clarke's patients exhibited all these features, and if a suitable hair were placed under the microscope the speaker felt certain that the nodes, areas of attenuation and fractures would be found.

DR. WISE, who had also been so fortunate as to have seen the cases of Dr. Rosen, agreed with Dr. MacKee's diagnosis of monilethrix.

LICHEN OR LUES? Presented by DR. SCHWARTZ.

The patient, Mr. S., aged 22, had a chancre a year ago, and had received inadequate treatment. The lesion on the penis had appeared, off and on, during the past year. There was no itching. The Wassermann was positive.

DISCUSSION.

Dr. G. H. Fox favored the diagnosis of lichen planus of the penis, as this was not an uncommon occurrence, while a secondary syphilitic papular eruption upon the glans penis was extremely rare.

Dr. ROBINSON said that he would not make a diagnosis of lichen on that one lesion alone. The depression in the central part was the result of a degeneration, and differed from the umbilicated condition of lichen planus. He considered the lesion one of syphilis.

Dr. SCHWARTZ said that they had considered the question of lues, for the man gave a positive Wassermann, but the lesion seemed quite characteristic of lichen planus—flat-topped, quadrilateral, etc., and he was therefore rather inclined to look upon it as a lichen planus in a syphilitic subject.

MOLLUSCUM CONTAGIOSUM. Presented by Dr. TRIMBLE.

The patient was a woman, 36 years of age, married, born in Italy. On the right side of the face and neck were a number of small lesions, varying in size from the point of a pin to a match head. They were white, and the small ones resembled tiny warts. The large ones were quite characteristic, showing a central depression. The duration was six weeks. The patient had three children, none of whom was affected.

TINEA UNGUIUM. Presented by Dr. HOWARD FOX.

The patient, Dr. S., was a hospital interne, 27 years of age, born in the United States. For the past four years he had suffered from an eczema on the backs of the hands, fingers and wrists. About two years ago he first noticed a change in the nail of the left index finger, and about six or seven months ago six other nails became infected. On examination he presented a chronic, thickened, erythematous-squamous eczema of the wrists and dorsal surface of both hands. All of the nails of the right hand (except the thumb nail), and the nails of the thumb and little finger of the left hand showed marked dystrophic changes, particularly of the distal portions. The nails were brittle, lustreless, pitted, furrowed and broken at the free border. There was no paronychia. The trichophyton spores had been found by different observers. The patient had agreed to try the method of treatment by baking, suggested at the recent meeting of the Society by Dr. Elliott.

RODENT ULCER. Presented by Dr. SCHWARTZ.

Mr. S., aged 50. The patient had a typical rodent ulcer of the left cheek, which began ten years ago as a pea-sized lesion, and had gradually grown to the dimensions seen on presentation.

CASE FOR DIAGNOSIS. Presented by Dr. SHERWELL.

Mrs. M., age 26 years, was referred on February 6th by a Brooklyn physician who had treated her for two weeks, the eruption having been present for ten days previous to that. When first seen by Dr. Sherwell, it occupied the same region as when presented, on the back of the hands and exterior surface of the arms, extending nearly up to the elbows. The appearance resembled the condition seen in a zoster eruption, with a discrete character and ruptured epithelial surface, with raw skin tissue underneath, and possibly a slight cupping as of loss of dermal tissue, as occurred in such. The patient was in fair general health, and gave no history beyond the fact that about a week before the eruption appeared she had cleaned a pair of gloves with benzine, using an excess of the fluid. He believed that there had been some subsequent infection of a mycotic nature, and asked for expressions of opinion.

The consensus of opinion favored the diagnosis of impetiginous dermatitis.

RUPIAL SYPHILIS SHOWING EFFECT OF GENERAL TREATMENT.

Presented by, Dr. G. H. Fox.

The case was neither an unusual nor doubtful manifestation of syphilis, but the patient was shown merely to point the moral that one of the greatest mistakes made in the treatment of syphilis was to confine the treatment to the disease and pay no attention to the patient. This man had had all sorts of ancient and modern treatment without benefit, until he was put upon a general tonic treatment, when the syphilis speedily improved. The disease was of eighteen months' standing. During the first six months the patient had received about twelve mercurial injections with various tablets internally. Then three injections of salvarsan and one of neosalvarsan, six more mercurial injections and more tablets. Meanwhile the lesions on face, scalp and body gradually grew worse, with loss in weight of seventeen pounds. Then mercurial lotions and salves were used with about forty more mercurial injections and salvarsan again, in repeated doses.

When first seen by Dr. Fox the patient was pale and thin, suffered from valvular heart trouble and presented rupial ulcerations of the scalp, forehead, trunk and extremities which showed no tendency to heal. By strict attention to his general condition and the use of mercurial plasters the patient speedily gained in weight, appetite and general appearance, and the ulceration healed, leaving a few nodules. The old time "mixed treatment" which would have been as useless as the injections in his low condition of body and mind, was prescribed and, according to the patient, produced a "miraculous effect."

DISCUSSION.

Dr. HOWARD FOX spoke of two cases that illustrated the point that the disease was not always controlled by drugs, even by intense treatment with both salvarsan and mercury. He recalled the case of a young girl treated by Dr. Gottheil with seven intravenous injections of salvarsan, in whom a typical, generalized papular syphilide made its appearance shortly after the last injection. Dr. Fox also recently treated a patient in the early stages of syphilis by four intravenous injections of salvarsan, and ten intramuscular injections of mercury. At the conclusion of this treatment the patient went to Europe for three months, and upon her return presented a well marked relapsing papular syphilide.

Dr. WINFIELD said that many syphilographers failed to treat the patient and took up all the time in treating the disease.

Dr. WHITEHOUSE agreed with Dr. Fox that the general condition of the patient was too often neglected in treating the disease. He had seen extensive syphilides that got worse steadily under intensive anti-syphilitic treatment. Some time ago he had a patient from the South with rupial syphilis, who was in very poor physical condition; he had been having night sweats for weeks, was emaciated and pale. Mercury had no effect upon him, but under general building up, the lesions began to improve and he ultimately recovered.

DERMATITIS HERPETIFORMIS. Presented by Dr. HOWARD FOX.

The patient, Mrs. F., was 36 years of age, born in Russia. About twelve years ago she had an eruption on the flexor surface of the left arm, lasting on and off for about six years. About six years ago the eruption seen on presentation appeared on the shoulders, and two years ago on the buttocks. The lesions appeared in crops, the patient never having been free of the eruption except for one period of three months, following treatment by arsenic. The lesions upon the buttocks always caused considerable itching, those on the shoulders only slight itching. The eruption, which was of a few days' duration, consisted of four fairly symmetrical areas upon the buttocks and scapular region. The lesions

upon the buttocks were large pinhead-sized papulo-vesicles, some of which were covered with fine crusts. The lesions upon the scapular region were herpetic in type, about half of which had dried to form crusts. The patient was being treated by injections of human blood and serum (heterogenous).

TUBERCULOSIS CUTIS. Presented by Dr. POTTER.

J. L., female, 30 years of age, married six years. There was no history of miscarriage or of syphilis. The eruption started on the upper lip a year ago and gradually spread to the nose, leaving a scar on the lip. The Wassermann test was positive. No pathological examination had been made.

DISCUSSION.

Dr. CLARKE said that from the nature of the lesions that surrounded the alæ of the nose, the color, and the distinct indurations, he was inclined to think it was a syphilide.

Dr. KINGSBURY thought that it was a syphilide, and that the disease should be treated, ignoring the patient.

Dr. WINFIELD thought that it was a syphilide, similar to a case treated by Dr. Whitehouse, who had a patient come in with an epithelioma grafted on to an old syphilide. Both the syphilis and the epithelioma were cured.

Dr. WHITEHOUSE said that for the reasons enumerated by Dr. Clark and the clinical appearance, he was inclined to believe it was syphilis. It resembled the case referred to by Dr. Winfield. After Dr. Winfield's case was presented, demonstrating the cure of the epithelioma by X-ray, it still gave a Wassermann plus reaction.

Dr. POTTER said that he presented the case for the purpose of obtaining further information. When he first saw the patient he thought it was syphilis, but was not certain about it. When seen again, he was more inclined to consider it specific, but it had some typical features of tuberculosis cutis, resembling a case that Dr. Winfield had shown last winter. He was quite willing to accept the diagnosis of syphilis, and would give antiluetic treatment and report on the result later.

NÆVUS PIGMENTOSUS. Presented by Dr. TRIMBLE.

The case was presented to show the result of treatment. The patient, a young woman, 20 years of age, had on the right side of the neck and chin myriads of small, deeply pigmented lesions, about the size of bird shot. Upon superficial inspection they resembled gunpowder stains. They were discrete, but very closely set. The condition had existed since birth, and was confined to the right side of the neck and face. The lower limit was the clavicle, and the upper boundary reached the upper lip, the greater number of the lesions being on the right side of the chin. The lesions were removed entirely with monochloroacetic acid.

DISCUSSION.

Dr. CLARKE said that the result was excellent. He had seen the patient some time ago, and she then presented a great many of these lesions. Only a few had been treated. The only possible criticism that could be made was the slight scarring that resulted, and it was questionable whether the lesions could be removed without some scarring.

Dr. MACKEE said that he would like to see the case in a year, to see if there would be any keloids.

Dr. G. H. Fox said that after considerable experience he would be afraid to treat such a case with any acid except carbolic, through fear of producing scars. Repeated applications of carbolic acid will sometimes remove small super-

ficial spots, but with the electric needle they can be removed quickly and readily, and with the best cosmetic results.

DR. SHERWELL said that he had used trichloroacetic acid, followed by applications of alcohol when enough action had been seemingly obtained, and had had some very satisfactory results as in the case presented. He had used the trichloro, instead of monochloroacetic acid, believing, erroneously, perhaps, that it was the stronger of the two.

DR. MACKEE asked if Dr. Fox inserted the needle in the centre of each spot.

DR. FOX replied that he just touched the surface of the skin without puncturing it, using the needle like a brush. The superficial dermatitis produced a destruction of the pigment cells.

DR. TRIMBLE said the applications were made very lightly; in fact, so lightly that a few seconds had to elapse for the lesion to whiten a trifle, to make sure that it had been touched. No one method was suitable for all cases of *nævi*; they had to be treated individually, and this type seemed superficial and amenable to the treatment given. The treatment was started with the patient taking the entire responsibility so far as the ultimate result was concerned. He was himself surprised at the good result obtained.

CASE FOR DIAGNOSIS. Presented by Dr. WHITEHOUSE.

A private patient, male, aged 37 years, native and resident of Haiti. Color that of a mulatto. He gave a history of a sore on the penis fifteen years ago, but no rash, and the chancre (?) disappeared without treatment. He was married nine years, had two healthy children, eight and six years of age, and his wife had had no miscarriages. The Wassermann test, two weeks ago, was negative. The patient was physically robust and healthy. Three years ago the first eruption appeared on the top of the head, which was nearly bald, and one and a half years ago it began on the face, first as a patch on the left side of the nose, which, after the application of picric acid, spread across the nose and fronts of both cheeks in the so-called "butterfly" or "bat wing" area. Smaller scattered patches appeared over the forehead and calvarium, and a crescentic, irregular patch, one and one-half inches long, behind the left ear. All patches showed indistinct atrophy in the centre, with little or no scaling, and intensely black pigmentation over the greater part of the affected area, deepest at the periphery. The patient had thirty-six arsenic and mercury injections a year ago. The active process seemed to have ceased, and there were no subjective symptoms, although there was itching and soreness at first.

DISCUSSION.

DR. WILLIAMS thought it was lupus erythematosus. The distribution on the face, the pigmentation, especially marked on the border, the atrophy in the middle of the lesions on the cheek and scalp, the lack of any deep cicatrix, the superficial scarring, and the chronicity all pointed to lupus erythematosus in a negro. In this man, some of the lesions were apparently in an early stage and had produced pigmentation, but had not as yet led to atrophy. He doubted if syphilis had anything to do with the eruption.

DR. WHITEHOUSE thought that the lesions on the top of the head and behind the left ear certainly looked like lupus erythematosus, and said that he could see nothing syphilitic in the eruption. If not lupus erythematosus, he did not know what it could be.

FIVE CASES SHOWING RESULTS OF TREATMENT WITH KROMAYER LIGHT. Presented by Dr. CLARKE.

(1) The first patient, a girl, had a port-wine *nævus* on the cheek, almost the size of a quarter of a dollar. She had two applications of the Kromayer light,

and none of the lesion was left. There was a slight scar in the centre of the lesion, making a pit mark on the face, from the electric cauterization of a single vessel remaining after the exposures. No scar mark followed the light exposures.

(2) This patient had a very extensive lupus erythematosus involving both sides of the face part of the forehead. All the lesions were active when the treatment was instituted. The lesions had healed, except two small areas along the edge, that had recently been exposed.

(3) This patient presented an excellent illustration of the effect of the Kromayer treatment. This also was a case of lupus erythematosus on both sides of the face, the size of the palm. It could be seen where the applications had been made, these areas remaining perfectly clear up to the time of presentation. The thickest lesions on the face were selected for treatment. The patient was ill after three of them had been exposed, and did not return for a year. The remaining lesions, therefore, had not been treated and had extended slightly at the edges. These areas then were partially surrounded by active lupus, but there was no tendency for the disease to encroach on the healed areas or to recur in these areas.

(4) The fourth patient had a very thick lupus erythematosus of the nose, extending on both cheeks in the typical bat-winged arrangement. The Kromayer light treatment had been applied, and the lesion was quite healed except along a portion of its edge near the tip of the nose, not sufficiently rayed.

(5) This little patient had a very extensive lupus erythematosus, with lesions on both ears and both cheeks and nose. She had been treated in the office, and was still under treatment. The ear lobes were clear. With the exception of a very few remaining small areas on the face, the lesions were healed without any apparent tendency to recurrence in the exposed area, and without the scarring due to the lupus itself.

DISCUSSION.

DR. TRIMBLE thought the results were excellent, especially in the case of vascular nævus. He was sorry that Dr. Clarke had not had the patient photographed before treatment, for it certainly was a brilliant result.

DR. SHERWELL said that he had seen cases of lupus erythematosus cured by *lotio alba*, one case resembling exactly a picture in Duhring's atlas.

DR. G. H. FOX suggested that when some member of the Society had a dispensary case with an extensive symmetrical lupus erythematosus, it would be well to treat one side with the Kromayer light and the other side with curettage or some other form of treatment, and compare the results. This experiment would be extremely instructive and beneficial.

DR. HOWARD FOX said that the case of nævus showed a particularly brilliant result, and asked whether it was a light or a dark nævus. The light-colored lesions, he said, were especially difficult to cure.

DR. WHITEHOUSE said that it would be difficult to duplicate the results by any other method of treatment. In the first case shown there was practically no depression, no destruction of tissue, and that it was a thick, infiltrated lupus erythematosus could be seen by the adjacent part which was still spreading. Any method which would remove that and leave a perfectly smooth non-depressed area was hard to find. It could not be done with caustics or refrigeration or any other method that he knew. Another important feature was shown in that case. While Dr. Clarke had not yet followed them long enough to know the final results, the disease adjacent to the area covered by the quartz lens was spreading, but did not go beyond the barrier of the edge of the lens. The patient was an intelligent woman, and said that it spread along to where the lens was placed, and then went down around the edge—a sort of fingerlike spreading, which would seem to point to the fact that the lesions treated by this method

were not going to recur. If lupus erythematosus was a blood vessel disease, and these vessels were destroyed, it had no basis for further development, and could not go on. The manner in which it spread in this case seemed to point to permanent removal of the condition. The other patient, who had thirty or forty applications, was a case of thick, resisting lupus erythematosus, and there was absolutely nothing else that could remove such patches without a disfiguring scar, and the scar here was smooth and practically level with the normal skin.

DR. CLARKE, replying to Dr. Howard Fox, said that the nævus which the child had was the size of a silver quarter, and was not the very dark variety, but the lighter variety.

As to the lupus, so far as he could remember in seeing the cases, the recurring patches were outside of the area exposed to the lamp. If they had not been sufficiently exposed, the lupus seemed to develop all around the edges, outside of the line of the areas exposed. The reason for so many exposures in such a case as the one presented with the lesion around the nose, was that in order to get results there must be a very firm pressure of the lens against the lesion, and because of the contour of that part of the face and the contour of the lens, which was convex, it was sometimes possible to expose only a pea-sized area. He had been endeavoring to get the chemical company which manufactured these lenses to make some concave and other lenses, but had not been able to get them to do so as yet.

The woman who had had the three exposures, with no recurrence after a year, had had only one exposure of each lesion. In all the cases he had treated while experimenting with the Kromayer light, he had regularly selected the thickest parts of the lesions for treatment.

SARCOMA MULTIPLEX OF KAPOSÍ. Presented by DR. WINFIELD.

This patient had been presented before. He had been under observation for five years, and had various pigmented tumors on different parts of the body. They had always disappeared under the free administration of arsenic. He had had several lesions on the leg. The patient lost weight rapidly when he first took the arsenic.

DISCUSSION.

DR. SHERWELL said that he had given very large doses of arsenic in such cases, and in 1892 had published an article in the *American Journal of the Medical Sciences* (October, 1892), reporting some very wonderful results of such treatment. One patient had had hundreds of sarcomatous tumors of various sizes and they almost all had disappeared, recurring always when treatment had been discontinued. The speaker referred those interested to his paper in the *Journal* above mentioned.

EPITHELIOMA OF THE SIDE OF THE NOSE TREATED BY CURETTING AND APPLICATION OF ACID NITRATE OF MERCURY. CURED. Presented by DR. SHERWELL.

C. J., aged 66 years. He was operated on by curettage and subsequent application of acid nitrate of mercury. He had had an extensive lesion on the right side of the nose, extending to the orbital region. He was shown an exemplifying the slight cosmetic deformity by this method.

BILATERAL HERPES ZOSTER. Presented by DR. HOWARD FOX.

The patient, H. B., was a man 48 years old, born in Germany, a cook by occupation. He was examined on January 31st, and presented an eruption which had made its appearance eight days before, e.g., one day after his admission to

the hospital for diphtheria. On the day of admission he had received diphtheria antitoxin, and had been vaccinated for smallpox. He had not previously taken any medicine or received any treatment for his sore throat. The eruption, according to his statement, caused a considerable amount of burning, not sufficient, however, to prevent sleep. There was no itching. The lesions had continued to appear during the week while he was in the hospital. When examined, the patient presented about twenty groups of large pin-head sized vesicles, situated chiefly upon the buttocks, extending slightly upon the lumbar region and the back of the left thigh. The lesions were in various stages of evolution, some of them being covered with blackish crusts. The lesions were perfectly typical of groups of vesicles that characterized herpes zoster or extensive herpes simplex. The eruption had cleared up and simply left pigmented areas at the sites of the former groups of vesicles.

DISCUSSION.

DR. G. H. FOX said that he had photographed two cases some thirty years ago, which he had called double herpes zoster, occurring exactly in this locality—on the lower part of the back and buttocks. When double zoster did occur it was apt to appear in this region.

EPIDERMOLYSIS BULLOSA. Presented by DR. TRIMBLE.

The patient was a young man, 20 years of age, born in this country, of Italian parents. His dermatological condition had existed for eighteen years, or since he was two years of age. It was practically confined to the hands, arms and legs, although the abdomen and back showed the results of former lesions. In those locations he had a peculiar thin, atrophied condition of the skin, the site of former lesions, and occasionally a bleb would arise in the area. In some of the lesions a few milium-like bodies were seen. He gave a history of bleb formation following the slightest injury, which had been going on since early childhood. Intentional trauma did not produce a bulla, but the epidermis peeled up and rolled off very easily.

DISCUSSION.

DR. WHITEHOUSE said that it was a very unusual case. He had not seen any case with that condition of atrophy on the forearm—though it might be due to the long duration of the disease.

DR. WINFIELD said that he sometimes thought that epidermolysis bullosa was a manifestation of inherited syphilis. He had seen two cases where the children were undoubtedly syphilitic, but clinically they had all the appearances of epidermolysis bullosa. One of them gave a positive Wassermann, the other a negative one.

MULTIPLE BENIGN HEMORRHAGIC SARCOMA (KAPOSI). Presented by DR. MACKEE for DR. FORDYCE.

The patient was a male, 60 years of age, born in Russia. The eruption was on the hands, arms, chest and feet. The lesions consisted of the usual brownish-red nodules and infiltrated plaques, varying in size from a walnut to an adult palm. The lesions on the hands were very painful.

SYPHILITIC SCARS. Presented by DR. MACKEE for DR. FORDYCE.

Mrs. A. J.; 36 years of age; born in the United States. There was a history of a still-born child twelve years ago and another child, born five years ago, died eight days after birth. The patient remembered having had crusted and ulcerating lesions on the face beginning about eight years ago and lasting for

several years. Several surgical operations had been performed. The Wassermann reaction was strongly positive. The entire nasal septum was absent. There was a silver-quarter-sized, verrucous-ulcerating lesion on the mucous membrane of the left cheek. Both cheeks, the nose and the forehead were the sites of extensive scarring of a peculiar type. The skin in these areas was very thin, wrinkled and depigmented—a condition of anétodermia.

ERYTHEMA MULTIFORME. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a woman, 47 years of age. The duration of the eruption was six weeks. The lesions were on the face, neck and dorsal surfaces of the hands. Each lesion began as a pinhead to split-pea-sized, thick-walled, opaque, purplish-red vesicle. On account of the thickness of the wall the early lesions resembled papules. The vesico-papules would next undergo superficial ulceration. The centre of the ulcerated area would then heal, leaving a depressed, ulcerating sulcus as a periphery. This, in turn, was surrounded by an area of erythema. The lesions would then extend peripherally until they attained the dimensions of a silver dollar. The centres were elevated, thickened and grayish-white in color. The shallow ulcerating sulcus was a deep red and the surrounding skin œdematous and erythematous. There were, also, a few typical iris lesions. The only subjective symptom was pain. The mucous membranes were unaffected.

RETICULATED ATROPHY OF THE SKIN FOLLOWING COMEDO. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a girl of 16 years. When 8 or 10 years of age the patient developed many comedones on both cheeks. This condition persisted for several years but there were never any pustules. At that time she was treated by Dr. Lapowski at the Good Samaritan Dispensary. A few of the comedones were extracted but most of them were allowed to remain in the skin. She had applied various lotions and ointments but they never produced a severe inflammation. As the comedones disappeared they left depressed scars, or small areas of atrophy which later became confluent and produced a reticulated appearance.

When presented to the Society there were a few comedones and no pustules. The skin over most of the surface of the cheeks showed a multitude of pinhead-sized, oval, square and polygonal depressed areas of deep atrophy. These areas were so close together that the depressions were separated by only a narrow wall of normal skin. This produced a peculiar reticulated appearance. The depressed areas were redder than the normal skin, while the apparently normal skin composing the walls was perhaps a little whiter than normal.

The speaker did not consider the scarring to be the result of ulceration, but thought it represented an atrophy of the glandular appendages of the skin resulting from the pressure exerted by the comedones. The girl first menstruated at the age of 14. The speaker recalled only one similar case. This was a woman presented to the Society by Dr. Whitehouse a year or two ago. In Dr. Whitehouse's case the ætiology was unknown, although the possibility of malingering had been suggested.

DISCUSSION.

DR. WHITEHOUSE said that his case resembled this one, but that his patient had had smallpox. Once in a while we saw comedo-acne leaving a honeycomb scarring. He thought that this case was a comedone effect, pure and simple.

DR. JOHNSON thought that such a condition could result from comedo alone—from constantly recurring clumps of small comedones, provided the black heads were big enough and of sufficient duration. There might be something in the quality of the skin which was so affected.

CASE FOR DIAGNOSIS. Presented by DR. WHITEHOUSE.

Male, Italian, aged 37 years. The eruption began as a "pimple" seven months ago on the front of the right cheek, and slowly spread until it attained about one inch in diameter. At the time of presentation there was a circular indurated patch, with a sharply defined, raised border; the surface was dull red and partially covered with a crust resembling a papillary overgrowth. No pus at any time, and no subjective symptoms were present. He had two small, indurated lesions on the right side of the neck, resembling *tinae barbæ*. Three separate negative examinations were made of the hair and scales which were left overnight to grow. There was a negative culture on acid agar, after immersing the hair one hour in 60 per cent. alcohol.

DISCUSSION.

DR. WISE asked if the possibility of the Aleppo or Delhi boil had been considered.

DR. JOHNSTON said that he had presented a case previously with an exactly similar clinical condition, the lesion being on the lip. It was investigated in every way possible, histologically, bacteriologically, and by animal inoculations, but no organism was found except those usually present in the skin, no tubercle bacillus, or spirochete, or Leishman-Donovan body of Biskra button. The Wassermann test was negative, and the skin test for tuberculosis was negative. Finally the patient got well under the application of 30 per cent. solution of potassium hydrate. The surrounding skin was protected with vaseline, and when the action of the escharotic had taken place—evidenced by bubbling of serum—the excess was neutralized with vinegar. This process was repeated as often as necessary until a flat, atrophic scar was obtained.

DR. WHITEHOUSE thanked Dr. Johnston for his suggestion, and said that he would try the 30 per cent. potassium hydrate if he failed to find anything on further investigation. The outlying lesions were hard to explain, but their character made him think it was possibly ringworm.

DERMATITIS EXFOLIATIVA (WILSON TYPE). Presented by DR. WISE for DR. FORDYCE.

Benedict H., 7 years of age, born in the U. S., presented a universal exfoliating dermatitis, dusky red in color; duration, 4 months. The scalp showed thin hairs, sparse and atrophied; there was alopecia of the eyebrows and ectropion; the skin of the hands was thickened and eczematous; the nails were dystrophic, especially at the distal ends; the scaling of the scalp appeared seborrhœic, and on the body they were fairly laminated, small in size, attached in the middle and free at the periphery. Adenitis was present. Subjectively, the patient felt chilly.

LUPUS VULGARIS. Presented by DR. WINFIELD.

This patient was a private case, referred by her physician. She was 18 years of age, born in Germany. Four years ago, in Hamburg, she was operated upon for tuberculous glands, which had existed for three months. She came to this country shortly after the operation. Six months ago the papular eruption of lupus appeared on the neck, along the edges of scars.

LINEAR PSORIASIS. Presented by DR. WISE for DR. FORDYCE.

This patient, Louis S., was 38 years of age, born in Russia; a carpenter by occupation. He presented a linear, scaly eruption of the whole of the right forearm, with marked lichenification; also a similar lesion on the left arm. The usual

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psoriasis eruption was on the back, elbows and knees, penis, scrotum, right shoulder and forearms.

MACULAR SYPHILIDE ASSOCIATED WITH LEUCODERMA COLLI. Presented by DR. WISE for DR. FORDYCE.

This patient, Inez N., was 21 years of age, and presented a number of small, fading papules and follicular efflorescences on the body, and a leucoderma of the shoulder-blades and neck. The latter showed distinct mottling and a reticulated arrangement, characteristic of syphilitic leucoderma.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(March, 1914, cxviii, No. 3.)

Abstracted by JOHN H. STOKES, M.D.

ON THE EFFECT OF HIGH DOSAGE INTRAVENOUS ADMINISTRATION OF SUBLIMATE AND MERCURY OXYCYANIDE ON LUETIC PROCESSES. R. FISCHEL and H. HECHT, p. 813.

The authors employed the drugs in question in doses of from .015 gm. to .04 gm., administered in 200 cc. to 400 cc. freshly prepared physiological saline solution. The injections were made into the cubital vein, with gravity flow, as in the administration of salvarsan and followed by 100 cc. of saline solution to wash out the vein. From one to six injections were given, at intervals of from three to eight days. The injections were painless, and only occasional patients complained of weakness. The results are summarized as follows:

(1) The disappearance of all varieties of syphilodermata with a rapidity quite comparable to that obtained with salvarsan was repeatedly demonstrated.

(2) Relapses occurred relatively early and often.

(3) As by-effects the following are mentioned: local thrombosis, occurring late in one case, transient diarrhœa, fever (including Jarisch-Herxheimer reactions) and albuminuria.

(4) The method is commended where the most intensive mercurial action must be secured, as in the treatment of paresis, possibly in combination with other forms of mercurial therapy, or with salvarsan.

The writers believe that the relatively simple constitution of the molecule in these drugs gives them their advantage over the more complex and less efficient proprietaries.

HERPES ZOSTER GENERALISATUS WITH SPINAL CORD CHANGES.

L. VON ZUMBUSCH, p. 823.

This is a report of a fatal case in which extensive round cell infiltration and degenerative changes in the posterior columns of the cord and the gray matter of the posterior horns were demonstrable. In the lower dorsal and lumbar regions the anterior horns were also affected. The changes were, of course, associated with extensive involvement of the dorsal root ganglia. Attention is directed, in the discussion, to the question of the possible identity of the zoster process as it affects the ganglia, with other clinically distinct forms of poliomyelitis in the cord. The author, however, does not reach a definite conclusion, contending himself with using the case as an illustration of the extension into the cord of a process often thought of as limited exclusively to the spinal root ganglia.

ON THE MELANOTIC PIGMENT OF THE EPIDERMIS. K. KREIBICH, p. 837.

In this communication Kreibich takes up the histopathology and microchemistry of a variety of dermatological conditions associated with pigmentary changes, from the standpoint of his conception of a distinct pigment-bearing cell, the melanoblast. The structure and physiology of the melanoblast are elaborately discussed. The résumé of the presentation emphasizes the following points. Melanoblasts are round, ovoid or dendritic in form, with a spongiöse protoplasm differing from that of the surrounding epithelial cells in the lipid content of the protoplasm. Melanoblasts, while usually present in the basal layer, may occur in the rete Malpighii. They are regarded as of epithelial, not connective tissue (mesodermal) origin, and the opinion is expressed by Kreibich that any epithelial cell may become a melanoblast. The characteristic cell of the Paget carcinoma is an epithelial cell which has become a melanoblast. The melanoblast in the cutis becomes a nævus cell, and is also the distinctive cell of the malignant pigmented neoplasm, or "melanoblastoma," which is therefore properly to be spoken of as a "melanocarcinoma." Study of the pigment proper demonstrates the presence of a lipid and a melanin component. The lipid is double-refractive and sudanophilic but may arise from a substance which is not sudanophilic. The pigment may occur in a crystalloid or granular form. Melanoblasts exist which produce neither melanoblasts nor pigment. The pigment of the retina and also of the hair develops from lipid substances. The production of this lipid is a function of the cell protoplasm.

ON A LICHENOID (SMALL PAPULAR, SPINOUS) TRYCHOPHYTIC ERUPTION. A. GUTH, p. 856.

The author presents an extended study of an efflorescence of a lichenoid, papular type, suggesting lichen scrofulosorum, and a psoriasiform seborrhœic

eczematoid eruption, both associated with deep-seated kerionic trychophytosis in children, as exemplified in a number of cases seen in the Berne clinic. A spinous variety was also recognized. The condition occurred principally in boys at the height of the kerionic stage or during its decline, and appeared either in a sudden outburst or gradually. The localization is commonly on the buttocks and extremities, especially the thighs. A grouped and a disseminated form was recognized. The exanthem is transitory, with occasional recurrences. The follicular spinous type occurs largely on the lower abdomen and sacral region. Involution is spontaneous, and seems to occur coincidentally with improvement in the kerion.

Guth is inclined to believe the condition to be associated with trychophytin hypersensitization, which was present in all the cases. The exanthem could be provoked by the use of trychophytin or the application of the trychophytin itself to the hypersensitive skin. The pathogenesis of the efflorescence, whether a true trychophytosis of hæmatogenous dissemination, or a "trychophytide" of toxic origin, comparable to a tuberculide, is not fully determined. Apparently, organisms have been found under exceptional circumstances in the lesions, and Pellizari has described a small papular exanthem of trychophytic origin without deep involvement (kerion) and without immunization manifestations.

DERMATOLOGISCHE WOCHENSCHRIFT.

(Jan. 2, 1915, lx., No. 1.)

Abstracted by MAX SCHEER, M.D.

TWO CASES OF UNUSUALLY SEVERE SYPHILIS OF THE NOSE AND PALATE. RICHARD FRÜHWALD, p. 1.

Case 1: A man, 38 years old, acquired syphilis through an extra-genital infection. He had had a disseminated eruption on two occasions; on the second occasion, when he first came under the author's observation, he had an ulcerating syphiloderm. Eight months after infection the disease began to localize itself in the buccal cavity, which thenceforth was never free from lesions, and gradually the affection spread to the nasal cavity. At first there were large and deep ulcers on the soft parts which were very little influenced by specific therapy; although the patient received almost continually mercury and potassium iodide and also local treatment, the ulcerations showed a progressive tendency to spread. One year later the bony parts became involved and the patient stated that he expectorated a sequestrum. In the fourth year of the disease, he had a small perforation of the hard palate. In spite of general and local treatment the destructive process steadily continued; the entire palate was destroyed, so that nasal and buccal cavities become one large space filled with ichorous masses. Also the greater part of the turbinate bones and entire vomer were destroyed. The general condition of the patient, which until then had remained relatively good, became worse, and he died four and one-half years after infection.

Case 2: A man 26 years old, was referred to the author from the nose and throat clinic, where he had been treated for empyema of the antrum of Highmore. The patient had never observed primary or secondary manifestations of lues. At the time of observation, the process had extended from the antrum to the nasal cavity and tear duct and giving rise to a dacryocystitis luetica. Later, following a gumma on the floor of the nose and one on the roof of the palate, a perforation occurred, resulting in a communication between the mouth and nose. Not till the perforation had steadily enlarged did the patient seek

admission to the hospital. In spite of specific treatment the necrosis spread; there was swelling over the bridge of the nose and later there was severe spontaneous epistaxis. Some small pieces of the alveolar process and a large portion of the posterior part of the hard palate were extruded. Then the process spread to the soft parts; there was a gummatous infiltration, resulting in three large holes in the cheek. The patient died of cachexia. The Wassermann reaction was positive.

Both cases came to autopsy; the findings in both corresponded to those found during life; except that case two showed a fibrous orchitis, and both showed villous proliferations at the base of the tongue, there were no findings of note. Neither of the cases had been treated with salvarsan, as they both occurred before the salvarsan era; the author doubts whether salvarsan would have had a curative effect in these cases, and refers to a case of severeluetice necrosis of the frontal bone which he had seen at a medical society; in spite of energetic salvarsan treatment, the necrosis was entirely uninfluenced. In the author's cases the propriety of instituting surgical treatment was considered, but was not carried out, owing to the general condition of the patients; he quotes a case of Koch's where, in spite of surgical treatment, the necrosis continued and the patient died ten weeks after operation. The author points out that in his first case the disease of the bone was secondary to that of the soft parts and just the reverse obtained in the second case.

(*Ibidem*, Jan. 9, 1915, lx., No. 2.)

A CASE OF ERYTHEMA BAZIN. P. L. BOSSELINE, p. 41.

A girl, 19 years old, who had, some years previously, a pleurisy with effusion, and at the time of observation had an apical tuberculosis, consulted the author for an eruption on the legs. She stated that several months previously she had a nodular and pustular eruption on the legs, which healed in four weeks. The present eruption was situated on the lower third of both legs and consisted mainly of two elements, intermingled. There were a great many conical papulopustules, the size of millet to hemp seeds, situated upon a dermo-epidermal infiltration; there were violaceous nodules intermingled with these lesions, and scars of preëxisting lesions. During the month in which the patient was under observation, there was no improvement, in spite of treatment; new lesions kept forming and the patient had an irregular fever. An injection of tuberculin gave rise to an increase in temperature and aggravation of the pustular lesions. A biopsy was not permitted but some material, scraped from the depths of a pustule, was inoculated into two guinea pigs; both died in two months from inanition; the autopsy showed no tuberculous lesions, but only a sclerosing hepatitis.

The author considers the pustular eruption not as an impetigo, but as a form of tuberculosis and gives the following reasons: the presence of pustules on the nodules and infiltrations, their absence elsewhere on the skin, their exclusive situation in the hair follicles; the occurrence of the same type of eruption after injection of tuberculin, and finally, the production of experimental liver cirrhosis in the guinea pigs, as due to tuberculous toxins.

The author concludes that there is a form of erythema induratum Bazin, which is accompanied by a pustular folliculitis, and which bears a close ætiological and clinical relationship to the specific nodose lesions.

(*Ibidem*, Jan. 16, 1915, lx., No. 3.)

NEVUS-LIKE AFFECTION OF THE THIGH (SYRINGOCYSTADENOMA PAPILLIFERUM). ADOLF FISCHER, p. 65.

A girl, eleven years old, came under the author's observation in January, 1913, with a history of having had since birth, pruritic, warty growths in the

left inguinal region; at first few in number and very small, they had gradually increased in number and size until at the time of observation the eruption extended from the region of the left Poupert's ligament to the right side, to the mons veneris, below, to the upper third of the anterior surface of the left thigh and from here, laterally, to the middle of the crest of the ileum. The eruption consisted of millet to pea sized papules, of a pale red to bluish-red color, of a moderately firm consistence; in parts the papules were isolated, and in other parts they coalesced to form plaques. The skin around the papules was normal. The individual papules all showed a slight umbilication in the centre, from which a hæmorrhagic serous fluid could be expressed. Here and there the umbilications were covered by an adherent scale. Itching was severe. Carbon dioxide snow, which was used at first with good results, could not be continued on account of the extreme sensitiveness of the patient. Then, under anæsthesia, several of the papules were curetted away, but there was a recurrence in eight weeks. Finally a good therapeutic result was obtained with mesothorium.

Microscopically, the most striking phenomenon was a cyst-like projection of the epidermis deep into the corium; these depressions corresponded to the umbilications mentioned above. Without exception, these cysts all showed a close relationship to the excretory ducts of the sweat glands, contained detritus and were lined with several layers of cylindrical epithelium. Some of them showed papillary proliferations of their walls into the lumen of the cyst. The epidermis, except for these cyst-like depressions, was normal and the corium was intact; there was no inflammation.

EMBARIN. ALFRED ROTH, p. 69.

Embarin, unlike most other mercurial preparations, does not contain minute amounts of arsenic, and thus there is no danger of rendering the spirochætæ arsenic-fast, a point to be borne in mind when the administration of salvarsan is considered. Embarin is a 6-2-3% solution of mercury-salicylic acid of sodium, which, in addition, contains ½% of akoin. It contains 3% of mercury, so that 1 cc. of embarin will contain 0.03 gm. of mercury.

The pain following the injection is minimal; no infiltrations result. In two cases a chill and rise of temperature to 104° F. were undoubtedly due to the embarin; these untoward symptoms lasted but a few hours. The injections are given daily or every other day and 15 or 20 suffice for a course; given alone as well as with salvarsan, they succeed in changing a positive Wassermann reaction to negative. The needles used for injection should be kept in alcohol.

(*Ibidem*, Jan. 23, 1915, lx, No. 4.)

LARGE TUMOR OF THE GENITAL REGION. GRISSON and E. DELBANCO, p. 89.

The patient, a man thirty-six years old, came under observation Dec. 6, 1910. Since 1906, he had small, wart-like growths on the glans penis near the meatus; these remained stationary till the summer of 1910, when they began to increase in size and number and grow along the penis to the abdomen; in certain parts they broke down. There was no difficulty in urination. No history of infection. When the patient first came under observation there was a cauliflower-like tumor in the genital region, extending above to the abdomen and below involving almost the entire scrotum; the tumor had many protuberances. The surface was covered with blood crusts and with a foul secretion. Urine was normal; the Wassermann reaction negative. Astringents, caustics, the Pacquelin canter, curettage, Roentgen-therapy, and surgical excision were successively employed, but recurrences always took place; the patient died two and one-half years

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after the time of coming under observation. At autopsy there was found involvement of pubic bone, left ileum, both ischio-rectal fossæ and a perforation of the rectum, by the growth; there was no glandular involvement and there were no metastases.

Several biopsies were obtained; sections made during the early stages of the growth were submitted to two pathologists; one reported a benign epithelial growth, not carcinoma; the other an epithelial new growth, with suspicious epithelial changes; these changes consisted in a high degree of metaplasia of the prickle-cell layer, with a tendency to softening, hyaline degeneration and formation of pearls—in other words, a beginning malignant degeneration. Sections from the growth during its later stages showed undoubted carcinoma. It is remarkable that there were no metastases and no involvement of the inguinal glands.

(*Ibidem*, Jan. 30, 1915, lx, No. 5.)

CONTRIBUTION TO THE EXPERIMENTATION IN THE ÆTIOLOGY OF PELLAGRA. K. RÜHL, p. 113.

Animal experiments were undertaken with the view of studying the effect of light and the deficiency of vitamins in the diet as factors in the ætiology of pellagra. Guinea pigs and white and gray mice were kept in a dark place for a month, and well fed before the experiments were undertaken.

One series of animals was kept in a cage exposed to daylight and sunlight and fed principally with maize. A second series was kept under the same conditions of light, but were given a mixed diet, without maize. A third series was fed like the first, but was exposed to red light (red window panes in their cage). A fourth series was given a mixed diet, without maize, and exposed to red light. A fifth series was kept in the dark and fed with maize, from which the vitamins were removed. A sixth series was exposed to day- and sunlight, but were fed maize rich in vitamins. A seventh series was treated just like the preceding, but exposed to red light.

(*To be continued.*)

(*Ibidem*, Feb. 6, 1915, lx, No. 6.)

THE SITUATION, NUMBER AND SIZE OF SYPHILITIC GUMMATA. A. FONTANA, p. 145.

The author reports the case of a man, 55 years old, with numerous subcutaneous gummata of unusual situation and size. There were thirteen in all, seven on the chest and six on the back; three were ulcerated; the largest was the size of an orange. The Wassermann reaction was positive; they all were cured by mercury and salvarsan.

CONTRIBUTION TO THE EXPERIMENTATION IN THE ÆTIOLOGY OF PELLAGRA. K. RÜHL, p. 151. (*Continued.*)

In the guinea pigs there was no evidence of a photodynamic reaction; the only autopsy finding of note was redness and swelling of the adrenals. Guinea-pigs, in the author's opinion, are unsuitable for such experiments, as they die too readily.

In the rats, the combined influence of light and maize diet exerted no harmful influence. The animals exposed to red light and fed with maize developed more poorly than the others and most of them died. White rats exposed to weak daylight and fed with maize, minus its vitamin, were in no way injured.

There was likewise no evidence of any deleterious photodynamic effect of either white or red light on white rats fed with maize, from which the hilus had been removed.

DERMATOLOGISCHE ZEITSCHRIFT.

(July, 1914, xxi, No. 7.)

Abstracted by PHILIP FRANK SHAFFNER, M.D.

DIAGNOSIS AND THERAPY OF SYPHILITIC KIDNEY DISEASE (SYPHILITIC NEPHRITIS). FRITZ MUNK, p. 591.

Munk describes several types of diffuse syphilitic disease. The one form which he claims is more of a degenerative than an inflammatory process, a "Nephrose" (v. Müller) or a "Nephropathic" (Aschoff), presents the following features. The condition occurs mostly in women early in the course of the disease. The symptoms are first a high grade anæmia with a more or less severe œdema, malaise and weakness, some dyspnœa, infrequent headaches, occasional vomiting, and little or no rise of temperature. The quantity of urine secreted is from three to twelve hundred cubic centimetres, normal in color and reaction, a high specific gravity and albumin as high as two and eight-tenths per cent. The urinary sediment consists of a few red, numerous white blood cells, epithelial, cylindrical, and hyaline casts, but *principally lipoid present as fine droplets or in packets, either in the epithelial cells or in the cylindrical casts. These lipoids are doubly refractive through a Nicols polariscope.*

Pathologically, the picture of an acute diffuse syphilitic kidney disease with the so-called large white kidney is seen. Microscopically, one finds a lipoidal degeneration, especially in the convoluted tubules of the first division, while the glomeruli are relatively intact. In addition an albumoid degeneration of the tubular epithelium is seen.

It is to be noted that this type of kidney is neither clinically nor pathologically the large white kidney of amyloid variety, in that the process starts early after the infection and furthermore shows no pathological changes of amyloidosis.

Clinically, most of the patients respond to rest and care, and usually in from fourteen days to three weeks, oftener earlier, the œdema decreases and disappears, the quantity of urine increases, the albumin decreases, although very small amounts may persist for some time. The other symptoms clear up, and all that persists for some time are the lipoids and albumin in the urine.

The cases of transitory albuminuria occurring in early syphilis are to be differentiated from the type just mentioned in that these doubly refractive lipoidal bodies are not to be found. Furthermore, since the first evidence of the transformation of the benign albuminuria into the more serious degenerative type is first manifested by the appearance of lipoidal bodies in the urine, Munk recommends a systematic routine examination of all syphilitics' urine.

The author further describes the chronic form of syphilitic nephritis (contracted kidney), and tends to show how it can be differentiated from the non-syphilitic (the genuine arteriosclerotic contracted kidney) by means of Roentgen pictures, in that in the syphilitic type the elastic coat of the aorta is mainly involved, producing a passive tube readily influenced in contour by mechanical pressure of the blood, while in the arteriosclerotic type of non-syphilitic origin, the intima of the aorta is affected, giving rise to a more or less stiff, straight tube. This type of syphilitic contracted kidney, as contrasted with the degenerative variety, comes on much later in the course of the disease and affects

males mostly. The urine is slightly increased in amount over the normal, the sediment is scanty, lipoidal drops and fatty granules are found, with a few hyaline casts. The amount of albumin is less and frequently transitory. In this type of specific kidney disease, the heart and blood vessels (blood pressure) are unaffected except when the condition persists for some time.

Therapeutically, these cases of syphilitic kidney disease are treated by rest in bed, vegetable diuretics, including digitalis at times, and potassium citrate, catharsis, and small doses of potassium iodide. Later, when the œdema disappears, small amounts of inunctions or injections of mercury are given and even small doses of salvarsan are not contraindicated. Special attention should be given to the nourishment of the patient which should be mainly carbohydrate in character. Iron is furthermore given to control the anæmia.

SECONDARY LICHENOID TRICHOPHYTOSIS. KARL HERXHEIMER and HERMAN KOSTER, p. 569.

The authors describe a so-called secondary lichenoid trichophytosis occurring in an adult male, starting as a perifollicular pustular eruption on the neck, face, abdomen, thighs and legs and dorsum of the hands. In addition to the isolated pustules, were found sharply defined elevated plaques, from berry to a mark-piece in size, of a vivid red color, covered with crusts, scales and pustules. In some plaques the edges were raised with centres depressed. No trichophyton was demonstrable in either the smear or the sections, although the diagnosis was definite.

In a few weeks the eruption changed into a type of the lichenoid variety, as described by Guth in his cases, which occurred in children afflicted with a scalp trichophytosis in addition to the cutaneous variety.

The authors believe that a primary lichenoid trichophytosis should be reserved for cases such as Guth's, while the case described by them should be termed a secondary type in that the original picture was not that of a lichenoid variety but a pustular type.

A CASE OF CHRONIC LYMPHATIC LEUKÆMIA WITH A GENERALIZED MILIARY LYMPHADENOMA CUTIS. WERTHER, p. 574.

Werther reports a case of chronic lymphatic leukæmia with a relatively low white count, varying from ten to thirty thousand, but with a relative lymphocytosis, mostly of the small lymphocytic variety.

The patient presented a generalized thickening and stiffening of the skin with desquamation—a generalized erythrodermia—with localized lichenoid and eczematous patches. Itching was marked throughout the course of the disease. The hair, nails, tongue and oral mucosa took part in the process. No tumors or hæmorrhages were found.

Histologically, there were seen lymphatic-leukæmic collections arranged in the upper layers of the cutis, in the vicinity of the subpapillary capillary loops.

Werther enters into a lengthy discussion as to the ætiology and pathogenesis of the process and presents the very interesting theory of Marchand's—of the transformation of the endothelial and perivascular cells, following a specific chemical irritation, into large mononuclear leucocytic-like cells, which correspond to the large mononuclears of the blood.

Some very excellent microphotographs are shown.

MULTIPLE NEUROFIBROMATA OF THE SKIN. P. H. SCHOONHEID, p. 610.

Schoonheid reports a case of multiple neurofibromata of the skin with histological findings. The patient presented the characteristic tumors with pigmen-

sion, but no decided impairment in intelligence, although he was of a very nervous temperament and suffered at times from auditory hallucinations.

Histologically, fibromata belonging to the neurofibromata type were found. A lengthy discussion as to the pathogenesis of the process makes up the greater part of the article.

ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

(June, 1914, No. 6.)

Abstracted by PAUL E. BECHET, M.D.

CONTRIBUTION TO THE CLINICAL AND HISTOPATHOLOGICAL STUDY OF ACANTHOSIS NIGRICANS, ASSOCIATED WITH PULMONARY CANCER. PETRINI DE GALATZ, p. 321.

Petrini de Galatz calls attention to the frequency with which acanthosis nigricans is associated with carcinomata of the internal organs, and he considers this dermatosis as a manifestation of, and secondary to, malignant growths of the viscera. He admits the possibility of the disease existing without this association, but in such cases he gives a reserved prognosis, as after some years of observation, it may be perfectly possible for malignant growths to become manifest. He reports at length a case of acanthosis nigricans associated with a cancer of the left lung, in which death occurred within a year.

THE SARCOIDS AND SYPHILIS. THE NECESSITY OF A REVISION OF THE SARCOID GROUP. L. M. PAUTRIER, p. 344.

Pautrier mentions the good results attained by Ravaut with neosalvarsan in papulo-necrotic tuberculides, lupus erythematosus, erythema induratum, angio-lupoid, and sarcoid; also the fact that the Wassermann reaction was positive in one case of angio-lupoid, two cases of papulo-necrotic tuberculides, two cases of lupus erythematosus, and one case of sarcoid. He believes the sarcoid group may lose its relationship to the tuberculides. He reports a case of sarcoid of the Boeck type, in which the clinical diagnosis was confirmed by biopsy. A Wassermann reaction proved strongly positive. The patient admitted an antedating syphilis of six years' duration; on further examination, nodular serpiginous syphilides were observed on the right forearm and both thighs. After the injection of 0.20 gm. of neosalvarsan, the sarcoid greatly improved. Two more injections of neosalvarsan and two intravenous injections of cyanide of mercury caused the entire disappearance, not only of the syphilitic lesions, but also of the sarcoid. A case of sarcoid of the Darier-Roussy type, confirmed by biopsy, was practically cured after thirty injections of one centigramme of benzoate of mercury. Though the Wassermann reaction was positive, there were no objective signs of syphilis. He concludes by stating that sarcoid occurs in subjects presenting a positive Wassermann reaction, and in such cases mercury or salvarsan is curative; it therefore seems to appear in correlation with syphilis, as much as in tuberculosis. The tuberculous structure of the sarcoids loses its specificity, and presents a new example of the complete analogy of syphilitic and tuberculous lesions.

JOURNAL OF THE AMERICAN MEDICAL
ASSOCIATION.

(Feb. 6, 1915, lxiv, No. 6.)

Abstracted by WM. H. BAUGHMAN, M.D.

GUIDES IN VACCINE THERAPY. HORACE GREELEY, p. 492.

Stock vaccines should not be used, for even if the causative organism is known, the particular strain will probably not be contained in the stock vaccine used; the other strains present will act as a burden, if not more injuriously, on the reactive mechanism of the patient; nor are they cheaper in price than the autogenous vaccines; while the difference in time consumed in obtaining them is usually negligible. The public is also becoming more insistent in their demands for scientific accuracy in this as in other forms of therapy.

So long as the patient's maximum immunizing processes are operating, vaccine therapy is contraindicated.

In all troublesome or dangerous infections not amenable to specific treatment, vaccine therapy should be considered, provided the infecting agent is known and can be artificially cultivated, not neglecting anything that can improve the general health.

Each case must be a law unto itself concerning the size of the initial dose, the increment of increase, the length of time between doses, and the number of doses. Overdosing must be avoided, as injury may be done to the reactive mechanism, and the time between doses must be so regulated as to get the maximum of specific resistance with the least cumulative over-dosage. The site of injection should be varied each time so as to produce the stimulating influence on the greatest number of cells. The presence of a focal reaction is important as it is convincing proof of the culpability of the organism constituting the vaccine in use. The daily range of temperature and pulse should be determined not only before, but throughout the course of treatment.

(*Ibidem*, Feb. 13, 1915, lxiv, No. 7.)

THE USE OF SKIN GRAFTS IN AMBULATORY TREATMENT OF
ULCERS. REPORT OF FIFTY CASES. JOHN STAIGE DAVIS, p. 558.

Only five out of fifty cases of ulcers were not either cured or improved by the grafting of autografts. A valuable method of treatment heretofore considered unsuitable for ambulatory cases.

CHANCRE OF THE FINGER. A. J. GILMOUR, p. 582.
Case report.

(*Ibidem*, Feb. 27, 1915, lxiv, No. 9.)

BUYO CHEEK CANCER, WITH SPECIAL REFERENCE TO ÆTIOLOGY.
G. G. DAVIS, p. 711.

A peculiar form of cancer quite common among people indulging in the chewing of buyo, a combination of buyo leaves, betel-nut, slaked lime and tobacco. The author's paper is an interesting account of the various aspects of this subject, with the pathological findings.

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HUMAN SERUM IN URTICARIA. A. W. SWARM, p. 737.

A case of obstinate urticaria with itching, pains in the joints, purpura, and markedly increased coagulation time of the blood, treated by injections of blood serum obtained from the patient's brother. Six intravenous injections were given with no bad effects; but a cessation of the eruption since the fifth injection, the return of the blood coagulation time to normal, and a general feeling of better health have resulted.

(*Ibidem*, March 6, 1915, lxiv, No. 10.)

COMPLEMENT FIXATION IN PARASITIC SKIN DISEASES. J. A. KOLMER and A. STRICKLER, p. 800.

In the majority of cases of ringworm of the scalp and favus, complement fixation occurs with fungus antigens. An account of the materials and technique employed, with several tables, is given.

SOME CLINICAL FEATURES OF THE WASSERMANN REACTION. E. L. KEYES, JR., p. 804.

While regarding the Wassermann reaction as the most satisfactory laboratory test for syphilis, the author does not feel justified in making the diagnosis of syphilis on this reaction alone. This attitude is due to the facts that the results of the various methods of doing the Wassermann test do not agree precisely; that its findings vary inexplicably in certain cases from those of other tests; and that it is known to be positive in certain diseases other than syphilis.

The advent of the Wassermann reaction has caused no change in his attitude toward marriage after a certain period of time has elapsed; during which time the patient has followed a prescribed course of treatment and has developed no lesions following it.

A persistent Wassermann reaction may indicate the presence of live treponemes, but a negative one is no proof that they are not present. Its persistence does not necessarily mean that the patient will develop lesions in the later years of the disease. Many cases of reinfection following a disappearance of all lesions under salvarsan therapy have been erroneously reported because of the dependence upon the negative Wassermann reaction as evidence of cure.

(*Ibidem*, March 13, 1915, lxiv, No. 11.)

THE EMPLOYMENT OF BORIC ACID IN DISEASES OF THE SKIN. D. W. MONTGOMERY, p. 883.

Its value lies in its being a mild and soothing antiseptic. Particular methods of using it in various conditions are described.

FAMILIAL SYPHILITIC INFECTION IN GENERAL PARESIS. R. H. HASKELL, p. 890.

Nearly forty per cent. of the conjugal mates of paretics become infected with syphilis, probably an underestimation. Very few of these were aware of their condition and had received any specific treatment. Sterility, abortions and miscarriage are high; while the number of children in these families is small. About one-fourth of the children are actively syphilitic, and an equal number show signs of physical degeneration and psychopathic tendencies.

THE TREATMENT OF PSORIASIS WITH VACCINES. E. D. HOLLAND, p. 903.

Case report.

ARCHIVES OF INTERNAL MEDICINE.

(March, 1915, xv, No. 3.)

Abstracted by R. C. JAMIESON, M.D.

IMMUNITY TESTS IN COCCIDIOIDAL GRANULOMA. JEAN V. COOKE,
p. 479.

This article reports two cases of this disease and also the experiments made to discover specific immune bodies in the blood of one of the cases.

Complement fixation tests were made, using antigens of coccidioidal growth and blastomyces and a rabbit-antisheep hæmolytic system. The results obtained were entirely negative.

Cutaneous reactions were also tried by the von Pirquet method and intradermally. Negative results were obtained by the scarification but a pseudo-reaction resulted from the injections with the antigens as well as in the control cases. This was found to be due to irritants in the organisms.

Agglutination tests were negative but precipitin tests demonstrated a precipitin which was apparently specific. This, however, is to be verified with other cases. This test may be of service in the diagnosis of obscure, deep-seated affections.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(March, 1915, cxlix, No. 3.)

Abstracted by R. C. JAMIESON, M.D.

THE CLINICAL INTERPRETATION OF THE WASSERMANN REACTION; WITH SPECIAL REFERENCE TO CHOLESTERINIZED ANTIGENS. J. A. KOLMER and J. F. SCHAMBERG, p. 365.

The purpose of the authors' investigations was to study the antigenic value of cholesterinized alcoholic extract of normal heart as compared with alcoholic extract of syphilitic liver and acetone-insoluble lipoids, especially in those cases reacting positively with cholesterinized antigen and negatively with other antigens. They also wished to study those cases giving no history or evidence of lues but which gave mildly positive reactions with cholesterinized antigens, and to determine the value of the Wassermann reaction performed with cholesterinized antigen as a control in treatment.

All reagents were carefully titrated and standardized and four antigens were used—a cholesterinized alcoholic extract of human and beef hearts, an alcoholic extract of syphilitic liver and an extract of acetone-insoluble lipoids.

In 52.2% of reactions with cholesterinized antigen and alcoholic extract of syphilitic liver, reactions were equally positive, 47.8% were stronger with cholesterinized antigen, 10.5% positive with cholesterinized antigen and negative with alcoholic extract, while no cases were negative with cholesterinized antigen and positive with alcoholic extract. Compared with the acetone-insoluble lipoids, the results showed that the cholesterinized antigen was the more sensitive and that the lipid antigen was more sensitive than the alcoholic extract.

They consider that all cases giving a positive reaction with the cholesterinized

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antigen and negative with other antigens are either luetic or are suspicious enough to be given treatment, and that the history and clinical symptoms should be carefully considered in connection with the reaction. They do not think the ordinary antigens sensitive enough to give reactions which can be depended upon as a guide to treatment and believe that a weak positive with cholesterinized antigen indicates the presence of the disease if the patient is known to have had syphilis. They found that more treatment was necessary to produce a negative with cholesterinized antigen than with the alcoholic extract or acetone-insoluble antigens.

They state that pseudo-reactions are rare but that single units of complement and amboceptor should not be used. They favor human heart over guinea pig or beef heart for antigen.

SYPHILIS OF THE STOMACH. W. G. MORGAN, p. 392.

This article is of interest to the internist, although it serves to emphasize to the syphilographer that syphilis of the stomach exists, though very rarely.

KERATOSIS PILARIS OF THE SCALP. R. L. SUTTON, p. 424.

Sutton gives Beigel's description of this rare condition and relates in detail two cases of his own in mother and daughter. Improvement followed appropriate treatment but sufficient time had not elapsed for its permanency.

THE JOURNAL OF CUTANEOUS DISEASES

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THE HISTOPATHOLOGY OF SOME OF THE SECONDARY SKIN ERUPTIONS OF SYPHILIS.

BY CHARLES CLAYTON DENNIE, M.D., Boston.

(From the Pathological Laboratory of the Massachusetts General Hospital, James Homer Wright, Director, and the South Medical Department of the Massachusetts General Hospital, C. Morton Smith, Chief.)

THE histopathology of the skin manifestations of syphilis has been described many times, and the fact has often been demonstrated that *Treponemata pallida* are present in certain ones. The majority of investigators have demonstrated the presence of these organisms, either by the dark field illuminator, by staining the macerated tissue, or by inoculation into the rabbit's testicle. Some work has been done by Levaditi's impregnation method upon fixed tissue. In this paper an effort will be made to show in what part of the syphilitic lesion the treponemata are most frequently found and among what class of cytological elements they lie. It will be shown that, given a certain histological picture, the presence or absence of the treponemata in certain syphilitic lesions can to some extent be prognosticated.

The tissues examined were all taken from living subjects, who were untreated at the time the specimen was removed. Local anæsthesia (1% novocain) was used, and the infiltration made at some distance from the desired lesion. The ordinary stains (hæmatoxylin and eosin, eosin and methylene blue, Mallory's connective tissue stain and Levaditi's method) were used. As has been stated by Dr. Mallory and others, the last-named stain is not constant in its properties and often leaves a granular débris which is very annoying; but, in spite of these facts, it is the best known method for demonstrating the organism in tissues. The lesions described are vesicular, follicular (lichen syphiliticus), annular and condyloma (vegetating).

VESICULAR SYPHILIDE.

(Figure 1.)

It is needless to say that this lesion is one of the rarest of all luetic manifestations in acquired syphilis. Dr. C. M. Smith and Dr. Abner Post, of the South Medical Department of the Massachusetts General Hospital, have stated that the lesions demonstrated were the only ones which they had ever seen that they were willing to diagnose clinically as vesicular. They varied from 1 to 4 mm. in diameter, were sparsely scattered over the back and flanks, raised noticeably above the surrounding skin, and presented a translucent appearance and seemed to be tense with fluid, as if quite deeply situated.

Upon microscopical examination it was seen that this lesion was in reality built about a hair follicle, and consisted of a dense infiltration of small lymphocytes and plasma cells in a large triangular mass, with the apex beginning at the hair shaft, a short distance below its origin from the skin, and its base below the fat glands. The corium was pushed out in all directions, leaving the lesion sharply defined. This infiltrated area contained numerous spaces in which were probably lymphatic, but practically no blood vessels. Near the hair shaft were some connective tissue fibres which were probably of recent origin. The epithelial cells of the hair follicle showed some changes—the cells of the basal layer were shoved apart, and in the spaces between were a moderate number of small lymphocytes. The follicle had a narrow halo surrounding it which was due to œdema; beyond this and outside the infiltration, the blood vessels showed both peri- and endarteritis with a collar of small lymphocytes; no giant cells were present, and the overlying epithelium showed but little change.

A similar lesion impregnated by Levaditi's method showed no *Treponemata pallida* in any part; but, strange to say, a neighboring hair follicle, showing no marked pathological change, did show numerous *Treponemata pallida* in the spaces between the epithelial cells of the hair-enveloping sheath. This will be described under the heading of "Folliculitis."

FOLLICULAR SYPHILIDE (LICHEN SYPHILITICUS).

(Figure 2.)

An almost normal hair follicle was found to be present in this lesion. A few small lymphocytes and an occasional plasma cell were situated about this structure, likewise a similar mild change just un-

der the epithelium. The enveloping sheath of the hair showed the most noticeable changes. The basal cells were enlarged, vacuolated and spread apart; so that the intervening spaces seemed to communicate with the neighboring tissues beyond, and with similar spaces between the prickle cells above. Lying in these spaces were numerous *Treponemata pallida*, together with polymorphonuclear leucocytes; the former were found in no other part of this pathological structure. The most likely explanation of their presence is the supposition that here was a lesion which had not reached its greatest development. The *Treponemata pallida* had probably but recently entered, and had not been present long enough to provoke the maximum reaction. The reverse of this was probably true in the larger folliculitis (vesicular syphilide). Here the greatest reaction had been already provoked, as shown by the dense small lymphocyte infiltration and new connective tissue, and the *treponemata* had disappeared. In this connection an interesting question is brought up concerning specific alopecia, viz.: is the falling hair a symptom of the activity of the process? From these findings, it would seem that the acuteness of the process had passed some time before the loss of the hair, and that the process of repair had already started. The loss of the hair is probably due to the pressure of the infiltrating substances.

ANNULAR SYPHILIDE.

(Figures 3 and 4.)

This lesion was a perfect circle, about 3 cm. in diameter. The ring part was sharply elevated above the surface, about 1 mm. high and 2 mm. broad, the enclosed area being but slightly different from the surrounding skin. The advancing edge of the ring was marked by one large papilla, which projected far below its neighbors on either side; the ones immediately in front showed a slight change in the side next to the advancing papilla, while all the rest were apparently normal; the ones immediately behind were atrophied and much smaller than normal. In the advancing papilla the germinal layer was disintegrated so that the spaces communicated below with the corium and above with the spaces between the prickle cells; these latter were œdematous and the spaces were filled with polymorphonuclear leucocytes. Here again were found numerous *Treponemata pallida* lying among these leucocytes and nowhere else in the entire lesion. In the atrophied papillæ were found both small lymphocytes and polymorphonuclear leucocytes, between the epithelial cells, but no *treponemata*. Strange to say, the leucocytes and *Treponemata*

pallida were limited to the advancing edge of this large papilla, while neither were found on the opposite side. The changes in the corium were remarkable also, as the small lymphocyte and plasma cell infiltration was more marked toward the inner side of the large papilla than it was directly beneath it. The blood vessels in the corium beneath showed the usual vascular changes. Thus, it may be said with some assurance, that the first change was in the papilla of the epithelium itself and the changes in the corium were secondary. Unfortunately, a microphotograph of the treponemata cannot be shown, as they were too lightly impregnated to cast a sufficiently dark shadow upon the plate, but a drawing will be substituted to show their location.

CONDYLOMA (VEGETATING).

(Figures 5, 6 and 7.)

This lesion was of six weeks' duration, and was situated near the anus. It was removed by a rather wide incision around the base, thus including some of the normal skin. The upper part was the characteristic cauliflower variety, which did not bleed readily, and which narrowed down to a sessile base. When divided, it was seen to consist of two parts: an upper dense, finely striated portion about 4 mm. thick, and a lower narrowed core. The former, upon magnification, showed numerous slender epithelial fingers, connected above by rather thin bridges, and penetrating below deeply into the corium, and consisting of an extensive hyperplasia of epithelial cells, principally of the prickle layer. In certain areas near the corresponding papillary fingers of the cutis, the spaces between the prickle cells were much widened and infiltrated with leucocytes, the neighboring germinal layer was ragged, pushed apart, and communicated with the tissue below, giving a direct path up to the prickle cells. In certain places, perfectly round areas appeared, filled with leucocytes.

The papillary projections of the corium, which dovetailed with corresponding epithelial papillæ, were histologically divided into two parts. First, the upper two-thirds, which was characterized by numerous parallel capillaries, the greater number filled with red blood cells, but here and there one filled with leucocytes. Here the infiltration consisted of small lymphocytes and plasma cells, except in the top of the papillæ, where there were also many leucocytes, but where the infiltration was not very heavy. Numerous lymph spaces also occurred, but these could be differentiated from blood vessels by their thinner walls and the fact that they contained no blood elements. A rather frail connective tissue was present between the vessels.

The lower part of the papillary region of the corium was quite different, for here there was a more dense infiltration with a larger number of plasma cells. This band was situated about the tip, and for a short distance up the epithelial papillæ; below this area the capillaries were increased, but the larger blood vessels did not show much increase, nor did their walls show marked changes, although they had a collar of small lymphocytes. The coil glands showed no changes, except a slight periglandular, small lymphocyte infiltration.

The arrangement of the *Treponemata pallida* in this lesion was most remarkable. Not one was found among the dense lymphocyte and plasma cell infiltration; in fact, they were not found in any part of the corium at all, excepting in the very tips of the intrapapillary masses, where they communicated with the epithelium through the ragged basal cell layer. Here they were numerous, and many could be seen, with half the body in the intrapapillary mass, and the other half between the epithelial cells. As they extended up in these spaces, they became more and more numerous, until, together with the leucocytes, they formed a lace-work mass around the epithelial cells, where hundreds were present in one field. The *treponemata* were not universally present between the prickle cell layers, but occurred in colonies near the papillary cones. They could be found in other epithelial areas, but only in sparse numbers.

In the tip of the papillary cones, they were not arranged in any particular manner. It would seem that the *Treponemata pallida* gained access from the tip of these structures through the interrupted basal layer to the prickle cells, and multiplied there; apparently their growth was not inhibited by the presence of leucocytes; on the other hand, small lymphocytes and plasma cells seemed to be inimical to their growth, since the *treponemata* were not found where there was any marked infiltration of these elements. This observation is in accordance with the findings of Dr. J. Homer Wright. The location of the *Treponemata pallida* probably accounts for the tremendous infective nature of the granuloma, as they can, by their mobility, migrate by way of the intracellular spaces to the outside. They also probably migrate from between the epithelial cells into the deeper tissue by the same route as they do in the chancre.

It is recognized that not enough of this work has been done to draw any hard and fast conclusions, and other skin manifestations of syphilis will be taken up in the near future, but these are suggestive.

1. The *treponemata* were always demonstrated in greater numbers between the epithelial cells themselves, and were practically always limited to these cells.

2. Their presence was nearly always associated with mild leucytosis in the widened spaces between the cells.

3. They were practically never found among small lymphocytes and plasma cells.

4. They gained access to the epithelial cells, multiplied in the spaces between them, and migrated in both directions through the disturbance of the basal layer, thus accounting for their tremendously infective nature.

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EXPLANATION OF FIGURES.

FIG. 1.—VESICULAR SYPHILIDE. Hæmatoxylin stain. Showing: 1. Hair follicle. 2. Dense small lymphocytic infiltration. 3. Connective tissue formation in the centre. 4. Lymph spaces. X 100. (Photograph by L. S. Brown.)

FIG. 2.—FOLLICULAR SYPHILIDE. Levaditi's method. Showing: 1. *Treponemata pallida*. 2. Polymorphonuclear leucocytes. 3. Epithelial cells. X 1500. (Photograph by L. S. Brown.)

FIG. 3.—ANNULAR SYPHILIDE. Hæmatoxylin stain. Showing: 1. Large projecting papillæ with spaces filled with leucocytes. 2. Normal papillæ in front. 3. Atrophied and somewhat disintegrated papillæ behind. 4. Marked small lymphocytic infiltration to the inside and below large papillæ. 5. Outlying blood vessels showing collar of small lymphocytes. X 100. (Photograph by L. S. Brown.)

FIG. 4.—ANNULAR SYPHILIDE. The *treponemata* were unmistakable under the microscope but were too lightly impregnated to be seen clearly in the microphotograph. A drawing has been substituted. 1. *Treponemata* between the epithelial cells. 2. Leucocytes. X 1500.

FIG. 5.—CONDYLOMA (VEGETATING). Hæmatoxylin stain. Showing: 1. Long epithelial fingers. 2. Parallel capillaries, some filled with leucocytes. 3. Areas where the polymorphonuclear leucocytes are quite numerous between the epithelial cells. X 40. (Photograph by L. S. Brown.)

FIG. 6.—CONDYLOMA (VEGETATING). Hæmatoxylin stain. Showing: Dense small lymphocytic infiltration, together with a moderate number of plasma cells surrounding the tip of an epithelial papilla. X 375. (Photograph by L. S. Brown.)

FIG. 7.—CONDYLOMA (VEGETATING). Levaditi's method. Showing: 1. *Treponemata* going from papilla of corium through the interrupted basal cell layer. 2. Numerous *treponemata* and leucocytes forming a lace-like mesh around the epithelial cells. X 1000. (Photograph by L. S. Brown.)

PLATE XXVI.—To Illustrate Article on "The Histopathology of Some of the
Secondary Skin Eruptions of Syphilis," by CHARLES CLAYTON DENNIE, M.D.

FIG. 1.

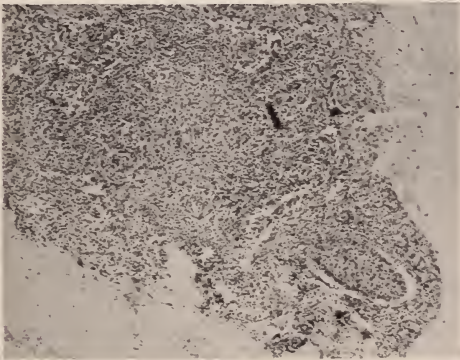


FIG. 2.

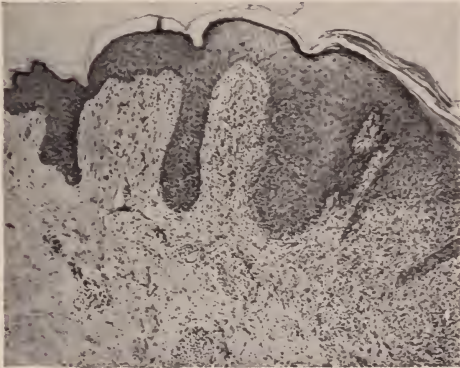
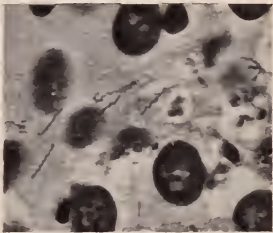


FIG. 3.

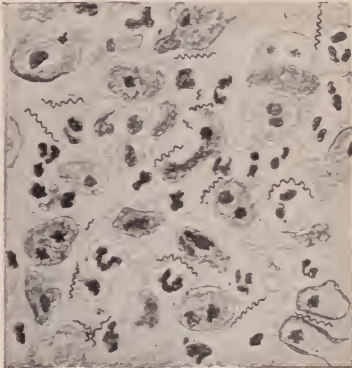


FIG. 4.

PLATE XXVII.—To Illustrate Article on "The Histopathology of Some of the
Secondary Skin Eruptions of Syphilis," by CHARLES CLAYTON DENNIE, M.D.



FIG. 5.

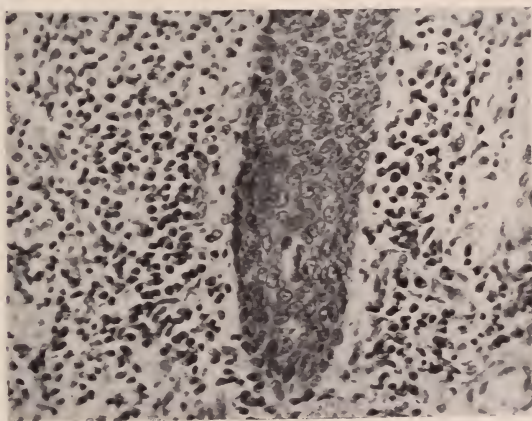


FIG. 6.

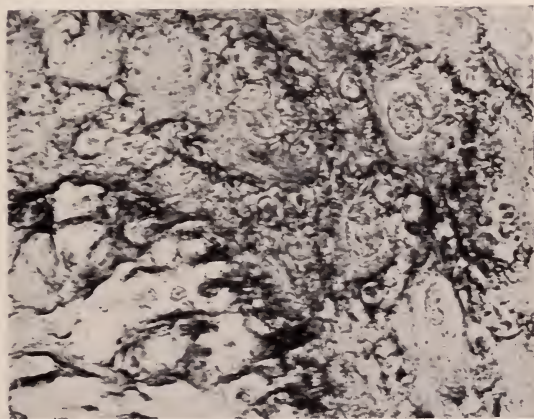


FIG. 7.

BENIGN FORMS OF TUBERCULOSIS OF THE SKIN.

BY GEORGE MANGHILL OLSON, M.D., Minneapolis.

THE more severe forms of tuberculosis of the skin, as lupus vulgaris and tuberculosis verrucosa cutis, have long been recognized as due to the direct action of the *Bacillus tuberculosis*. The milder and more benign forms of tuberculosis of the skin, as erythema induratum (Bazin), sarcoid of Boeck, and the various forms of tuberculides, have not been recognized as due to the *Bacillus tuberculosis*, although their connection and frequent occurrence in patients with tuberculosis has been commented upon and admitted by everyone.

Various theories have been advanced to explain this association of the above class of diseases with tuberculosis. Among these are: 1. Pus infection on a peculiar soil (tuberculous). 2. Paratuberculosis theory (Hallopeau, Brocq, Darier, Johnston, Hyde).

The theory which is held by a great many dermatologists at the present time is that the *Bacillus tuberculosis* in the lungs, glands, etc., develops a toxine which is carried to the skin, causing the toxituberculides or the paratuberculides. The analogy to the toxine theory of tabes and paresis is very close; also to the toxine theory of beriberi. This "toxine" theory has been proven to be incorrect in the case of tabes, paresis and beriberi, and, in the light of the many positive findings of the *Bacillus tuberculosis* and the many positive inoculation results obtained in cases of "tuberculides," is equally incorrect in this class of cases.

These forms of tuberculosis of the skin may appear upon practically all parts of the body, and vary in size from a millet seed to rather large nodules. This variation in the size of the lesions and the variation in the location of the disease (at times limited to the face, at other times to the lower limbs, etc.), has led to an appalling number of synonyms. All these fifty or more names can be grouped under three simple names: 1. Tuberculosis miliaris cutis. 2. Tuberculosis papularis cutis. 3. Tuberculosis nodularis cutis.

1. TUBERCULOSIS MILIARIS CUTIS.—The miliary or small papular form of tuberculosis of the skin. This includes lichen scrofulosorum (Hebra), lichen scrofulosus, scrophuloderma miliare (Neisser), lichen lividus, acne scrofulosorum (Crocker, Fox), lupus follicularis disseminatus (Tilbury Fox, Hutchinson), lupus miliaris disseminatus, acne teleangiectodes (Kaposi).

2. TUBERCULOSIS PAPULARIS CUTIS.—The papular form of tu-

berculosis of the skin. These often become slightly pustular and necrose in the centre, leaving a scar. This includes tuberculides (Darier), toxituberculides, toxituberculides papulo-necrotiques (Hallopeau), tuberculides acneiformes et necrotiques (Hallopeau, Balzer, Leroy), papulo-necrotic tuberculide, cutaneous paratuberculides (Johnston), folliculis (Barthélèmy), folliculites disseminées symétriques des parties glabries a tendance cicatricielle, folliculitis exulcerans (Lukasiecz), folliculites tuberculeuse, folliculitis exulcerans serpiginosa nasi, folliculitis cicatricielles necrosiques (Hallopeau, Lerrede), acne varioliformis of the extremities (Bronson), acneiform tuberculide, acne cachecticorum, acne agminata, acnitis (Barthélèmy), acne a cicatrices necrosiques (Hallopeau, Lerrede), lupus erythemateux disseminé, lupus erythematosus disseminatus (Boeck), acrodermatitis pustulosa hiemalis (Crocker), hidradenitis destruens suppurativa (Pollitzer), idrosadenite suppurative dessemine (Dubreuilh), spiradenitis suppurativa disseminata (Unna), granuloma innominé (Tennessee), necrotic granuloma (Johnston), small pustular scrofuloderm (Duhring), sarcoid (some forms of sarcoid of Boeck), miliary lupoid, benign miliary lupoid (Darier), tuberculosis cutis typus Boeck (some forms), impetigo rodens (Dévèrgie), necrotizing chilblains (Allen), scrofulides nodulaires disseminées (Dubreuilh).

It also probably includes the following: acne varioliformis (Hebra), acne frontalis, acne rodens (Vidal, Leloir), acne necrotica (Boeck), lupoid acne, acne atrophica, ulerythema acneiforme (Unna), acne urticata.

3. TUBERCULOSIS NODULARIS CUTIS.—The nodular form of tuberculosis of the skin. This form often ulcerates, leaving a scar. This includes erythema induratum (Bazin), erythema induratum scrofulosorum, érythème induré des scrofuleux (Bazin), érythème noueux chronique des membres inférieurs (Besnier), sarcoid of the extremities, multiple benign sarcoid (Boeck, the large forms), sarcoid of Darier and Roussy, subcutaneous tuberculide, Mortimer's malady, some forms of erythema nodosum.

ETIOLOGY.—I. Bacillus tuberculosis has been found in these benign forms of tuberculosis of the skin by Jacobi,¹ Wolff,² Jesionek,¹ Arndt,³ Finger,¹ Philippon,⁶ Landouzy,⁷ Lier,⁹ MacLeod,¹ Ormsby,¹ Bettmann.¹

II. Positive inoculations (local or general tuberculosis) have been obtained in these cases by Pellizari,⁴ Haushaller,⁴ Jadassohn,¹ Thibierge,⁸ Fox, Leiner,⁸ Spiller,¹ Landouzy,⁷ Ravaut,⁶ Carle,⁶ Morawetz,⁶ Kyrle,⁶ Sweitzer,⁶ Schidach,⁶ Volk.⁶

III. A characteristic or almost typical histological picture of tuberculosis has been obtained in these cases by Arndt,³ Jacobi,¹ Sacks,¹ Gilchrist,⁴ Beck,¹ Grosz,¹ Fritz Porges,¹ Lesselier,¹ Darier,⁵ Joseph, M. (Demonstration in clinic, 1914) Alexander,¹ Sweitzer.⁶

Joseph¹ states that without question lupus follicularis disseminatus is a real tuberculosis of the skin. Arndt³ states that lupus miliaris disseminatus is a tuberculosis of the skin and that folliclis is a bacillary tuberculosis of the skin, hæmatogenous in origin. Arndt³ believes that erythema induratum is a tuberculosis of the skin. Sutton¹⁰ holds that the diffuse form of erythema induratum is structurally and clinically tuberculous.

CONCLUSIONS.—The milder and more benign forms of tuberculosis of the skin occur as miliary, papular and nodular lesions. These have been described under a large number of names, enumerated above, and may be grouped under three headings: 1. Tuberculosis miliaris cutis. 2. Tuberculosis papularis cutis. 3. Tuberculosis nodularis cutis.

These forms of tuberculosis are due to the direct action of the *Bacillus tuberculosis* on the cutaneous tissues.

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TERTIARY LUETIC KERATODERMA.

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THE infrequency of tertiary vegetating syphilides may be appreciated by the paucity of references to this type of eruption in the various text books and treatises on diseases of the skin. Crocker, Hyde, and Dearborn do not refer to this type in their works. Stelwagon makes casual reference to papillomatous

and vegetating syphilides. Fournier groups such growths in his third class, the papulo-hypertrophic syphilides, which includes the condylomatous as well as the verrucous forms. Abraham, in Powers and Murphy's System of Syphilis, describes these lesions under the title of "Tylotic Syphilides," and points out that the hyperkeratosis of the palmar and plantar surfaces is more frequent than the verrucoid excrescences, such as the case referred to below represents.

R. W. Taylor regards these growths as metamorphosed papules or tubercles, and calls them papillomatous or vegetating syphilides, due to exuberant new cell growth of the papillæ. At the present time, it is understood that a papilloma, i.e., an hypertrophy of the papillæ, *per se*, does not exist. The lesions are epidermal hypertrophies, rather than dermal. Taylor, however, shows two excellent pictures of this type of syphilide, one a growth upon the face, and the other upon the dorsum of the foot.

The point it is desirable to make clear is that the lesion in question, of which the accompanying photographs represent an example, is a late or tertiary expression of syphilis. Tertiary luetic keratoderma is not to be confused with the much more commonly seen condyloma, located chiefly about the genitalia, and which is a development from a secondary papule.

A number of authors in their classification, apparently regard these growths without differentiation, as it were; whereas clinically and histologically, they are not the same. Macleod comments on the pathology and states that condylomata are instances of primary acanthosis, without hyperkeratosis; that is, a proliferation of the prickle cells extending into the interpapillary spaces, and even into the corium, the cells retaining their characteristic prickles, thereby differentiating them from the malignant proliferation of epithelioma. On the other hand condylomata begin as small papules, which, on section, show merely a thickening of the prickle cell layer and a flattening of the underlying papillæ. This, by the way, is as applicable to the mucous patches, so called, as to the lesions upon the outer integument. The development of both condyloma and keratoderma is provoked by irritation, due to attrition, accompanied by heat, moisture and discharges, occasioned by more or less uncleanness of the individual.

Verrucæ, of which the verruca vulgaris is a type, is a hypertrophy of the prickle cell layer of the rete mucosum, plus hyperkeratosis—an hypertrophy of the stratum corneum; the cornification in many instances is said to be defective, as is shown by the presence of nuclei in the horny cells above the papillæ.

PLATE XXVIII.—To Illustrate Article on "Tertiary Luetic Keratoderma,"
by PERCY H. EALER, M.D.



FIG. 1.

Tertiary luetic keratoderma before treatment.



FIG. 2.

Tertiary luetic keratoderma after treatment—healed.

Our photograph shows plainly the hyperkeratotic element in the lesion. This is also seen in the case described by Sequeira under the title of keratoderma, and by him regarded as a rare type of tertiary syphilide.

The leukoplakias of the mucous membranes correspond to the hyperkeratoses of the outer skin; the thickened plaque of changed epithelium is similar to the thickened horny tissue of the soles or palms. Both are late manifestations, and both may lead to malignant change.

It is to be remembered that this syphilide, to use the term introduced by Alibert nearly a century ago, is a late one, therefore asymmetric; it is indolent and chronic; it may resemble an atypical epithelioma, in fact a not unusual termination is degeneration resulting in an epithelioma. In the presence of such a lesion, a Wassermann test should be made, employing the more sensitive cholesterinized antigens, which are not apt to yield a negative reaction in a positive case.

CASE REPORT.

T. C., aged 40 years, came to the clinic of Prof. Schamberg at the Polyclinic Hospital, May 21st, 1913, exhibiting a squamous eruption upon the palm of the right hand. A Wassermann test was taken and reported as strongly positive, but the patient disappeared and was not seen again until July 9th, 1914, fourteen months afterwards. He then exhibited a circumscribed verrucous patch on the outside of the heel, also several bullous patches about the ankle and two bullæ on the anterior surface of the right leg. The patient at first said nothing about the previous visit, and the diagnosis rested between lues, and an atypical epithelioma. Upon learning of the previous visit, and looking up the record, it was ascertained that he had had a positive Wassermann. This inclined us strongly to the diagnosis of syphilis. A urinary analysis was made, proving negative. The patient was given two intramuscular injections of mercury, followed by the internal administration of hydrargyrum cum creta, in 2 gr. doses, changed later to hydrargyrum iodidum rubrum, in $\frac{1}{8}$ gr. doses. He was then given a new organic mercurial, prepared in the Dermatological Research Laboratory of the Polyclinic; while taking this, the lesion began to rapidly disappear, but the medicament was discontinued owing the patient's complaint of severe pains in the head and abdomen. This medication was then changed to potassium iodide and mercury, and, as the second photograph shows, resulted in the complete disappearance of the lesion.

I desire to express my appreciation to Dr. Jay F. Schamberg for the opportunity of studying and following this case, and for encouragement in the publication of the same.

A RÉSUMÉ OF TWO HUNDRED CASES OF HYPERTRICHOSIS TREATED WITH THE ROENTGEN RAY.

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UP to December 1, 1914, two hundred cases of hypertrichosis were treated with the Roentgen ray. These cases extended over a period of six years; they were about evenly divided, as follows: one hundred and forty-one blondes and one hundred and fifty-nine brunettes. All types were put arbitrarily under the one or the other heading.

These superfluous hairs were located as follows: in ninety-eight cases a general growth covered most of the face; in twenty-two, the chin only; in fifteen, on the upper lip; eighteen, below the chin and sides of the neck and throat; twelve, upon the lower extremities, between the knee and ankles; seventeen, upon the forearms and the back of the hands: six, on the chest or back; and twelve, in the axillary region. It is noteworthy that all of the axillary cases occurred during 1914, evidently a result of the prevailing style of evening dress which exposes this region.

It is almost impossible to strike a general average as to the time consumed for a successful epilation, on account of the following factors:

The area involved is of the utmost importance. When the hairs were located upon the lower extremities, although so abundant and coarse that they would penetrate and show through the stockings, sixty-five minutes was the average time consumed, in divided doses. When situated upon the forearms and backs of the hands, one hundred and thirty minutes was required. Upon any part of the face the average time does not convey an adequate idea at all. The shortest time required was eighty minutes, while the longest time was over eight hundred minutes.

When a covered part of the body was to be treated, the financial question was usually made paramount to the possible inconvenience of an erythema. Massive doses were used and an erythema usually followed from the second to the fourth exposure, with a more or less complete shedding of the hairs.

After ten days' to two weeks' interval the erythema would usually subside and the treatment was then continued with prophylactic doses, to prevent the regrowth. Sometimes this was successful, sometimes a second crop of hairs would require similar treatment. In two cases the hairs persistently recurred for four and six successive times. In both of these cases an erythema bordering upon the second degree was caused, before complete eradication was accomplished.

It is very evident that it is impossible, or at least unwise, to apply the same massive doses to the uncovered portions of the body, such as the face or even the forearms and backs of the hands. In one case, a male, a music teacher, was desirous of having all of the hairs removed from the forearms and the backs of his hands during the summer vacation. This patient was made aware of the dangers connected with such heroic treatment. The right forearm and back of the hand was a complete success. All of the hairs fell out after the fourth exposure, the erythema was marked, but at no time required any particular attention. The left forearm having received as nearly as possible the same amount of raying, showed a decided erythema, which in some places destroyed the superficial skin and upon healing showed that typical scar which is the result of a Roentgen ray dermatitis. While this patient declared himself as perfectly satisfied, such a condition is not desirable upon the face.

In treating the face, the only rule that I have been able to formulate is to use very small doses in the beginning, oft-repeated, until reaction occurs. By reaction I mean even the slightest sign of a beginning erythema. As soon as this happens, stop treatment upon this particular area and select an entirely new place of action.

As soon as there are signs of disappearance of the erythema, again apply a mild dose until shedding occurs, then continue with about one-half of the former dose. *Let me state emphatically that it is impossible at the present state of our knowledge to know beforehand which case is or is not especially susceptible to the effect of raying.* Using the same dose, day after day, upon one case, there seems to be no effect upon the tissues whatsoever, the hairs drop out, never to return. The patient is happy and the doctor thinks that at last he has discovered *the* method; in the next case, even after the first dose begins to tan, and no matter what is done, erythema is never produced, but a deep, dark brown tanning of the skin occurs, that takes months to wear off.

Such a case came under my observation, referred by Dr. Kinch. The patient was a female, a teacher, of brunette type, with a marked growth of hair on the

chin and neck, which was exposed to weak doses (5 amperes in primary circuit) and within one week tanning occurred, which persisted long after all of the hairs had disappeared. The daily application of hydrogen peroxide seemed to have little or no effect upon the discoloration.

A case that had a single exposure at one of our large clinics, by a most competent operator, resulted in an erythema which broke down and left a deep scar of perfectly white tissue, surrounded by a pigmented margin, giving the appearance of a vitiligo.

Dr. Samuel Stern, in a recent article, states: "The result of fourteen years' work with Roentgen therapy . . . in hospital and private practice, forced me to the conclusion that there is some at present unrecognizable difference in apparently identical cases, which determines the degree to which they will respond to X-ray treatment." (*Amer. Jour. Roentgen.*, Dec., 1914.)

It is because of this idiosyncrasy on the part of the patient that the treatment of hypertrichosis upon the face is beset with so many difficulties.

A case referred by Dr. Ochs received forty minutes' treatment in divided doses, every hair fell out and none ever reappeared.

In a case referred by Dr. Katz, in a high school girl, the hairs fell out after four to six exposures and returned four to six weeks later, with unvarying regularity. It took nearly two years of treatment, with intermissions, to clear the face entirely. This case would develop an erythema and in about one week's time all traces of the same were lost. She recovered with equal facility from at least twenty such erythemas. The final result was good.

In a case referred by Dr. Pentlarge, of Brooklyn, the patient had a very vigorous growth of hair over the face, chest, back and arms. The amount of raying that these hairs withstood was astonishing; erythema patches would develop and again disappear; while the hairs fell out, they would also reappear with equal regularity. During a time, while this patient was suffering from a nervous breakdown, accompanied by a primary anæmia, she received an erythema patch about the size of a twenty-five-cent piece, which broke down and left the usual scar, devoid of coloring matter. This last lesion occurred after the patient had been exposed, on and off, for upward of two years. What the state of her constitutional breakdown had to do with the persistence of this lesion is speculative, but the fact remains that the idiosyncrasy of a patient is a matter of no small significance.

In a case referred by Dr. S. Hirsch, the patient had a moderate growth of hairs upon and under the chin; the complexion in this case was otherwise perfect. The usual dose was given and after the fourth treatment the hairs began to fall and continued to do so with each succeeding exposure; no sign of erythema or anything else ever occurred and no hairs have returned to date.

As far as absolute failures are concerned, I have never met with any. Recurrences do happen, in about eighteen or twenty per cent. of the cases, the hairs returning once or even more times. The return is usually less in number, and as a rule lighter in color. Other unpleasant conditions happen now and then. A dermatitis, for some unknown reason, gets beyond control, the skin breaks down, scabs form and leave a nonpigmented area. Personally, I have seen only four such cases or only about two per cent. of all those treated.

Outside of this small percentage of complications, it must be admitted that Roentgen therapy is *the* treatment for hypertrichosis.

TECHNIQUE IN HYPERTRICHOSIS.

For the permanent removal of hairs there are only two methods of procedure known to the medical profession.

When the hairs are few in number and scattered over a rather large area, electrolysis is the better method to pursue. Each individual hair bulb must be penetrated with a fine, hair-like needle, attached to the negative pole of a galvanic current. The positive, a large felt pad or sponge, is placed anywhere within close proximity. A current up to one and a half or two milliamperes is gradually turned on and allowed to flow for about fifteen seconds. The current is gradually lessened to zero, the needle withdrawn, to be inserted into another follicle.

The result of such treatment is the destruction of a hair follicle and the formation of a minute amount of scar tissue, just beneath the surface of the skin.

Upon close inspection, each scar is visible. It is for this reason that such a method is faulty where the hairs are closely grouped.

When we are dealing with an abundant growth of hair in undesirable localities, as upon the face, forearms and the backs of the hands, we meet with better general results by making use of the Roentgen rays.

It was noticed by all of the early observers that whenever the Roentgen ray was used for therapeutic purposes in such lesions as ringworm of the scalp and syccosis of the face, that every once in a while the hairs that were shed after the application of the ray failed to return and permanent loss of hair was the result.

Schiff and Freund of Vienna were the first to make use of this effect in cases of hypertrichosis. Since then this method has been used all over the world.

Some operators favor the single massive dose procedure, while others prefer to use repeatedly rather smaller doses and depend upon the cumulative effect of the ray.

With both of these methods there are brilliant results as well as dismal failures.

Personally, I prefer a combination of these two methods; my preference is for the weaker, gradually cumulative effect of the ray upon the hair bulb.

If the Cornell tube is used, it must be placed and kept in direct contact with the skin. I never use more than six amperes in the primary circuit. The tube remains in contact, but is moved about over the hairy portion, for about ten minutes.

When using the Cornell tube no protection of any kind, neither for the patient nor the operator, is required.

When this tube is kept in contact with the skin, in other words, grounded on the patient, there is very little danger of any untoward effect.

If the ordinary spherical tube is used, it must be placed in some kind of a protector to prevent the rays from striking anybody or anything else except the lesion. This tube cannot be grounded upon the patient and a space of two inches must remain between the patient's skin and the surface of the tube.

Because this grounding cannot take place, the rays from this tube must be filtered through aluminum or sole leather. In either case, the dose or the time exposure amount to about the same.

A reaction erythema is desirable; this may happen after the first, yet may not happen until after the sixth exposure. The erythema is allowed to pass away, which will require from one to three weeks, then the same area is treated with one-half of the previous erythema dose.

After a few such treatments the hairs begin to fall out. In most cases a return will occur in about four or six weeks. As a rule, the regrowth is weaker

and lighter in color. By keeping up the treatment during the interim, this regrowth may sometimes be entirely prevented.

If the hairs have not returned three months after removal, the results may be looked upon as permanent.

The advantage of the Roentgen ray over electrolysis is that it is absolutely painless, it is very much quicker in its results, the patient may, during the treatment, make use of a depilatory, thereby being rid of the unsightly hairs at once, without interfering with the subsequent treatment, and lastly, while the untoward results are no worse than the occasional bad results of electrolysis, the good results are far superior to the best of electrolysis.

ELEMENTARY INSTRUCTION.

PHYSICAL DIAGNOSIS IN DERMATOLOGY.*

By D. L. SATENSTEIN, M.D., New York.

INTRODUCTION.

IN dermatology the subjective symptoms or the patient's story of the disease is often of more value in the prognosis than in the diagnosis. The objective symptoms or the dermal manifestations of the disease as noted by the examiner are often found to conflict with the history and usually are the only symptoms considered in establishing a diagnosis.

In the study of the diseases of the chest the student is made familiar with the signs elicited by palpation, percussion and auscultation, i.e., the physical signs, and is instructed as to their significance. He is taught how to put these findings together in order to make a diagnosis.

In dermatology the objective signs are the primary and secondary lesions. They are the "physical signs" and the study of these lesions truly comprises the study of the physical diagnosis of dermatoses.

In almost every work on dermatology there is at least one section devoted to the explanation and significance of the primary and

* This series of articles has been prepared for the benefit of students and instructors of dermatology.

secondary lesions; but no attempt is made to go into a detailed systematic study of the individual lesion.

What follows in this series of short articles is an attempt to present the individual primary and secondary lesions in a detailed systematic arrangement, which may be of value in teaching the elements of dermatology.

PRIMARY OR ELEMENTARY lesions are the objective or external signs with which cutaneous diseases begin. They indicate the changes, mainly of inflammation and of new growths, going on in the different layers of the skin or in connection with its appendages. They may continue as such or undergo modification, either from natural changes, or from extraneous and accidental causes, and pass into what are known as the *secondary* or *consecutive* lesions.

The primary manifestations are:

- (1) lesions without elevation or depression;
 - (a) macules,
 - (b) erythema,
 - (c) stains,
 - (d) discolorations;
- (2) papules;
- (3) tubercles or nodules;
- (4) vesicles;
- (5) blebs or bullæ;
- (6) pustules;
- (7) wheals;
- (8) tumors.

(a) **MACULES** are variously sized, shaped and tinted areas, or circumscribed alterations in the color of the skin without appreciable elevation or depression.

Size: varies from a pinhead to that of a ten-cent piece.

Shape: varies; more or less rounded, especially the small lesions; margins are always convex: when discrete, the margin is usually sharply circumscribed and rounded; when confluent, the margin is usually ill-defined, irregular or angular.

Color: varies according to the nature of cause; may be any color; most commonly reddish, yellowish or brownish in their various shades.

Occurrence and evolution: macules are of very frequent occurrence and they are the result of numerous pathological processes. Many diseases, diverse in nature, show macular lesions at some period in the course of their evolution. They are usually symptomatic of some constitutional disturbance or disease; they may be due to inflammation, to traumatism or be congenital; they are usually inflammatory. They may be localized or general, discrete or confluent, scanty or abundant; they may occur in association with other primary or secondary lesions, but usually occur alone or remain as such with a definite form, color and structure throughout their evolution. They may or may not disappear on pressure, may or may not gradually or rapidly change into papules, or become scaly or disappear spontaneously; they may be evanescent, persistent or permanent and may or may not be accompanied by subjective symptoms, as burning and itching; they are usually present in inflammatory and traumatic types of dermatoses.

TYPES: There are several distinct types which differ from each other not only in appearance but in structure and evolution.

Roseola: When the macule is small and circumscribed; usually symptomatic

of some general disorder or disease; may or may not be accompanied by constitutional symptoms; produced by simple hyperæmia or congestion; more or less rounded, may be irregular; pinkish to violaceous red, yellowish red, coppery red; usually occur alone, general, discrete; may become confluent; may or may not entirely disappear on pressure; remains a variable time; may disappear spontaneously; may or may not become scaly or change into papules, as in typhoid rose spots, macular eruption of measles, macular syphiloderm.

Petechiæ: These are usually circumscribed, superficial hæmorrhages into the skin; they may or may not be accompanied by systemic disturbances; when recent, they are reddish to purplish; they may be discrete or confluent, localized or general; they do not disappear on pressure; they remain a variable time, and disappear gradually or rapidly, changing color to bluish, greenish, etc., as in purpura maculosa.

Colored or Pigmented: Changed or increased pigmentation; light brown to black; localized and sharply circumscribed or diffuse and ill-defined; they do not disappear on pressure and are more or less persistent; may be permanent.

After long continued inflammatory action: Usually marks site of previous lesions; usually sharply circumscribed; more or less persistent, as after lichen planus and syphilis.

Without any inflammatory action: Localized to exposed parts; rounded or irregular; usually sharply circumscribed; more or less uniform in color; more or less persistent; may be permanent, as in freckles.

Deficiency or Absence of Pigmentation: Localized or general; usually sharply circumscribed; may or may not be uniform in size, shape or color; no change on pressure; more or less persistent; with or without any other change in skin.

Inflammatory: May be sharply defined and general, as in macular syphilitic leucoderma; may be ill-defined; more or less localized; not uniform in color, with some atrophy of the skin, as in macular leprosy.

Non-inflammatory: Various sized and shaped; uniform absence with increased color at margins, as in beginning vitiligo.

Maculo-papule: When macule is circumscribed and slightly elevated.

Maculo-squame: Inflammatory macules, during stage of retrogression, are frequently surmounted by accumulation of scales.

(b) **ERYTHEMA OR CONFLUENT ROSEOLA:** This obtains when hyperæmia or congestion is more or less confluent over the surface; variety of forms without regular outline or shape; all shades and tints of red; may be localized or general; circumscribed or diffuse; disappears on pressure; may be accompanied by more or less œdema of the surrounding skin; usually acute and evanescent; may be chronic and persistent; may disappear spontaneously or be followed by complete or partial desquamation.

Internal Origin: Usually symptomatic of some general disorder; at first, discrete punctate roseola, later confluent as a diffuse, uniform redness; remains a variable time, as in toxic erythema, scarlet fever.

Traumatic Origin: Usually accompanied by œdema of the skin; localized or general; circumscribed or diffuse; may be transitory; usually more or less persistent; may be permanent; commonly due to light rays of various kinds and to chemicals, as in sunburn, radiodermatitis, carbolic acid, mercurials.

Areola or Halo: This is manifested as an erythematous ring or an inflammatory zone surrounding other lesions; reddish to pinkish to purplish; may be sharply defined or diffuse; remains a variable time; transitory when accompanying acute inflammatory lesions; more or less persistent with chronic lesions.

Teleangiectases: Hyperæmic areas traversed by vessels that are apparent to the naked eye.

Ecchymoses: More or less diffuse hæmorrhages into the skin and sub-

cutaneous tissue; when recent, reddish to blackish-brown; when old, reddish to yellow.

Internal Origin: Accompanied by hæmorrhage from other parts of the body, as in scurvy.

Traumatic Origin: Color and character according to nature of injury.

(c) **STAINS:** These comprise changes in color involving small areas of skin; color varies according to the nature of the lesion; may be sharply defined or diffuse; there is no other change in the skin; they do not disappear on pressure; they are more or less persistent; some are permanent; they may be congenital or acquired.

Congenital: Usually localized, sharply defined and permanent; reddish to bluish, as in nævus flammeus; blackish to brownish, as in nævus pigmentosus.

Acquired: Sharply circumscribed or diffuse; reddish, yellowish, bluish or purplish; may be transitory, persistent or permanent.

After inflammatory lesions: Are transitory, as after impetigo and pemphigus.

After long continued inflammatory lesions: are more or less persistent, some permanent, as after markedly itchy dermatitis herpetiformis and pediculosis.

Non-inflammatory: Ill-defined, irregular areas; more or less uniform in color; usually localized to exposed parts; are more or less persistent, as in chloasma.

From external agents: Color depending upon agent employed; from applications: more or less persistent, as from chrysarobin and picric acid; from pigments introduced under skin: permanent, as in gunpowder and tattooing deposits.

(d) **DISCOLORATIONS:** Change in color involving large areas of skin; remains a variable time; usually more or less persistent; some permanent; with or without any other change in the skin; may be increase, deficiency or displacement of pigment.

Increased pigment: May be primary or secondary.

Primary: Usually general, sometimes universal; more or less uniform in color and distribution; may be ill-defined, disseminated and not uniform; with or without subjective symptoms, as in jaundice, general, with subjective symptoms; and as in Addison's disease, disseminated, etc.

Secondary: Same as stains: from external agents; internal origin: from ingestion of arsenic or silver for long periods.

Deficiency, displacement or loss of pigment: With or without other changes in the skin; more or less uniform; may be congenital or acquired.

Congenital: Deficiency of pigment; limited, as in achromia; universal, as in albinismus.

Acquired: Usually sharply circumscribed; displacement of pigment with increased pigment at margin, as in advanced vitiligo; loss of pigment with change in the structure of the skin, as with scar tissue and atrophies.

DIAGNOSTIC VALUE. Hyperæmic affections and discolorations from various causes, including increase or loss of pigment, all present examples of some of the above described lesions as their characteristic feature; the presence of these lesions gives no intimation as to the ætiology or nature of the disease nor is a diagnosis thereby suggested: the type of lesion only is noted.

Works on dermatology consulted. Stelwagon, Schamberg, Duhring, Crocker, Joseph, Fingert, Jarisch.

(To be continued.)

SOCIETY TRANSACTIONS.

NEW YORK ACADEMY OF MEDICINE.

SECTION ON DERMATOLOGY.

Regular Meetings, Jan. 5, and Feb. 2, 1915.

CHAS. M. WILLIAMS, M.D., *Chairman*.

TUBERCULOSIS CUTIS. Presented by Dr. KOVACS.

M. G., Italian, housewife, age 26, from Dr. Kingsbury's service, had a patch over the left buttock of three years' duration. It began as small papule and gradually extended to two and a half inches in diameter. The area of superficial ulceration was covered with an adherent scaly membrane. He remembered an injury suffered in this region three years ago. He was operated upon for cervical adenitis (suppurative) two years ago at the Presbyterian Hospital. The Wassermann test was negative.

DISCUSSION.

DR. POLLITZER said that in this case he advised surgical ablation, as the removal of the entire diseased area was exceedingly important, while the cosmetic result was of very little moment, on account of the situation on the buttock.

DR. MACKEE said that this type of tuberculosis usually yielded to one or two intensive X-ray treatments.

LUPUS ERYTHEMATOSUS. Presented by Dr. LUSK.

The patient was a male, aged 53, Hungarian, of delicate build and poorly nourished. The trouble began as a small patch on the left cheek at the age of 13 and slowly spread until the greater part of the cheek was involved. The unusual features were: 1. Asymmetry; the nose, ears and the right cheek had never been involved. 2. The practical absence of scarring. Various treatments gave little or no relief. Dr. Lusk had used a 25% ointment of resorcin for about two weeks and there was considerable thinning and smoothness over the greater part of the involved area.

DISCUSSION.

DR. WISE considered the case to be one of lupus vulgaris. The peculiar color, like that of the skin of a baked apple, the soft consistence, the sharp outline and the location were all in favor of that diagnosis.

DR. MACKEE thought that this was a case of lupus vulgaris, in which the nodules had lost their individuality through confluence. In this manner a thick patch had been produced which was virtually a solid apple-jelly nodule. Diastoscopic pressure elicited the yellow color and the semi-translucency common to the nodules of lupus vulgaris. An exact counterpart of this case was recently seen at Dr. Fordyce's clinic, in which there was a difference of opinion regarding the diagnosis and which through the means of a biopsy was proved to be lupus vulgaris.

DR. TRIMBLE said that he considered this a case of lupus vulgaris, although there were no disseminate nodules. The diseased area was a large flat plaque, like a large single apple-jelly nodule.

DR. LUSK, in closing the discussion, said that four weeks ago the case had every

appearance of lupus erythematosus, and that it then lacked the color and infiltration which were present at the meeting.

TUBERCULOSIS FRAMBÆSIFORMIS. Presented by Drs. POLLITZER and WISE.

C. J., 32, family history negative; the patient was presented at this Section about six months ago. The lesion began four years ago on the roof of the mouth and spread to the mucous membranes of the cheek. One and a half years ago the lesions on the skin appeared, first on the upper lip, and gradually spread to the surrounding parts of the lip and to the nose. He received six X-ray exposures over a period of three months. Each exposure was of six Holtzknecht units. Considerable reaction followed the X-ray treatments.

DISCUSSION.

Dr. TRIMBLE said that he had seen a case of lupus vulgaris involving both the mucous membrane and the skin of the nose, which had been subjected to external X-ray treatment, under which the disease healed on the mucous membrane as well as on the skin.

Dr. MACKEE said that he congratulated Dr. Wise upon the result obtained. He was, however, surprised that there had not been more improvement in the throat and mouth lesions in spite of the fact that the rays had not been applied directly to these parts. The speaker had had the opportunity of treating several such cases. He had employed a very penetrating ray and filtered it through aluminium. This treatment was applied to the nose and lips with the mouth closed and enough ray passed through the tissues to bring about resolution of the throat lesions. At least this was one explanation for the phenomenon. It was possible, of course, that the throat lesions disappeared under an influence similar to that which caused involution of an untreated wart on one extremity as a result of X-ray treatment having been applied to a wart on its fellow.

Dr. LAPOWSKI cautioned against the use of the cautery or of the knife on tuberculous lesions of the mucous membrane, on account of the great danger of spreading the infection.

Dr. WISE stated that the patient had received six treatments at somewhat irregular intervals, amounting to approximately twenty Holtzknecht units, with an 8 Benoist tube.

Dr. POLLITZER said that the disease had begun on the soft palate, spreading then to the lips, then over the skin of the lips on to the nose and to the cheek adjacent, producing the papillomatous and frambæsisiform mass present when the patient was exhibited last May. Biopsy and inoculation proved the nature of the process. Under X-ray treatment administered by Dr. Wise, there had been immense improvement of the cutaneous surface, but as yet there had been no treatment of the mucosa. For the latter he proposed to use the actual cautery under anæsthesia. The worst lesions of the mucous membrane were near the angles of the mouth, and here he had been unable to observe any change as the result of the X-raying.

PALMAR SYPHILIDE. Presented by Drs. MACKEE and WISE.

The patient was a married woman, 35 years of age, from Dr. Fordyce's clinic. There was no history of an initial infection nor of previous cutaneous eruptions. There was, however, a history of three miscarriages, and the Wassermann reaction was strongly positive. The duration of the palmar eruption was six or eight months.

When presented to the Section, there was an eruption that occupied the palm

of the left hand and the flexor surfaces of the fingers and thumb, extending to the wrist above and to the tips of the fingers below. It extended laterally around the thumb and little finger and affected a small area on the dorsal surface of the hand. The right hand and all other parts of the cutaneous surface were free of the disease. The eruption was sharply margined and the border was very irregular, scalloped or serpiginous. There was not a single small area of normal skin in the entire patch. The color at the margin, where there was a thickening of the skin without much scaling, was a dark red or raw-ham color. The palm was faintly red. Here there was not much infiltration, but the horny layer was considerably thickened, with the production of adherent, horny scales of varying size. There was some fissuring at the flexures.

DISCUSSION.

DR. POLLITZER said that in such cases, when the disease was confined to the palms, the diagnosis from the clinical appearance of the lesion alone was often difficult or impossible.

LICHEN PLANUS ANNULARIS. Presented by Drs. MacKEE and WISE.

The patient was a married woman, 57 years of age, from Dr. Fordyce's clinic. The disease began one year ago on the wrist; these lesions disappeared in a few weeks without treatment. About this time other lesions appeared on the back, chest and posterior surfaces of the thighs, and these had not disappeared.

When presented to the Section, there were groups of lichen planus papules on the back and chest. The most interesting feature of the case, however, was the eruption on the thighs. Here there were discrete but also closely crowded and confluent, dime-sized annular lesions occupying the entire posterior surface of both thighs. At a distance, the general effect was that of a lace-curtain design. The centre of the lesions contained normal skin. The periphery was composed of a single line of square, pinhead-sized, flat-topped, shiny, violaceous papules. There was considerable itching. There had been some improvement under the use of protiodide of mercury.

ACNE VARIOLIFORMIS. Presented by Drs. MacKEE and WISE.

J. J., aged 64 years, married, male. Previous history was negative (indefinite history of lesions on nose and cheeks). Present history: about three years ago there appeared on the scalp and forehead numerous small pustular lesions. They were more confluent, just at the hairy border of the forehead and scalp. These would heal spontaneously and leave a slight scar of which there was evidence when presented. He had a group of pustular lesions on the summit of the frontal bone, some of which had healed, leaving distinct scars. Others were encrusted and on removal of the crust a scar was seen. Scars were also seen on the nose and cheek.

LICHEN PLANUS HYPERTROPHICUS. Presented by Dr. ROSEN for Dr. GOLDENBERG.

Mrs. Minnie W., age 35 years, born in Austria, married. Family history negative. Present complaint: during the past two months she had had the eruption, consisting of typical lichen planus papules, involving the chest, trunk, extremities and back. But the most interesting lesions were on the mucous membranes of the mouth. The patient presented typical lichen planus papules on the inner surfaces of both cheeks and on the tongue. The lesions on the tongue had the typical color and were located mostly on the outer margins and tip.

FIBROMA MOLLUSCUM. Presented by DR. HEIMANN.

P. L., male, 22 years old, a weaver, American, was from Dr. Marsh's service at Cornell Medical School. Family history was negative. Past history: as a child he had had diphtheria and a severe fall, either of which would be sufficient to account for the patient's peculiarities of speech. His intelligence was excellent, physical development normal. The present illness began nine years ago in the patient's 13th year, with the lesion on the left knee. More recently the appearance of new lesions had been rapid, while the older ones had increased progressively in size. There were no subjective symptoms. Examination: The trunk, extremities and face were covered with innumerable tumors, the size of which varied from a millimetre to nine centimetres. To the touch they were doughy, although the larger ones contained hard nodules and strands. The color ranged from that of normal skin to a glassy salmon tone, and in places a darker hue, either slate-color or purple, was to be seen. There were some pigmentary disturbances; the nerve trunk contained palpable nodules in their course. The tumors were in part sessile and in part pedunculated.

MULTIPLE HÆMORRHAGIC SARCOMA. Presented by DR. AITKEN.

M. L., age 50, Russian, had no previous history. Biopsy and Wassermann were refused. The duration was three years; the disease began on the hands and feet. Present condition: the fingers were almost entirely infiltrated and reddened. Infiltrated red plaques and nodules were present on palms and dorsa of hands. New and old lesions on the forearms, having the same character as those on the hands, were seen. The feet and legs showed similar lesions. A few scattered lesions were on the trunk. The patient complained of intense neuralgic pains which were becoming more severe.

DISCUSSION.

DR. HEIMANN said that he had seen one mild case which remained free from the disease for two years after X-ray treatment.

DR. POLLITZER said that this disease existed preponderatingly in Hebrews. It was not very malignant, as patients afflicted with it had lived for twenty years or longer and usually died of something else.

DR. LAPOWSKI said that this disease was found among all races in Galicia, and was not confined to the Hebrews there.

XANTHOMA (DIABETICORUM?) Presented by DR. TRIMBLE.

The patient was an infant, aged 7 months. The duration of the disease was six months. The location was on the trunk and extremities. The history dated back to the time the baby was two weeks old. At that time the mother noticed a mottled condition which was apparently beneath the skin, and fairly generalized on the body. The present condition had existed for six months and consisted of about ten small lesions widely scattered. They were about the size of a match-head, some dusky red and some lemon yellow. The yellow ones seemed quite flat. One lesion, distinctly nodular, has been removed for pathological examination. The lesions were not typical, and for that reason, together with the urine examination, it was thought to be probably xanthoma diabeticorum. The urine contained sugar, a good trace of albumin, and a moderate increase in indican.

DISCUSSION.

DR. MACKEE said that he had had this case under observation at Dr. Fordyce's clinic, where the diagnosis of xanthoma had been made. A piece of tissue was prepared for histological study, and the findings confirmed the clinical diagnosis.

The speaker had not been aware that the infant's urine showed traces of sugar, nor had the character of the lesions suggested this possibility.

DR. HEIMANN said that the baby was artificially fed and the glycosuria might well be dietetic.

DR. POLLITZER said that the lesions lacked the hemispherical shape of xanthoma tuberosum and the red base and yellowish top of xanthoma diabetorum. The flatness might well be due to the lack of muscular tone and to the large amount of soft fatty tissue, wherein the skin of a baby differed from that of an adult. Even though the patient was glycosuric, it was not a case of xanthoma diabetorum as it had not the characteristic appearance of that disease. Xanthoma was due to a systemic disturbance accompanied by an excess of cholesterol in the blood. The local process was started by the passage of this substance through the capillaries, its extravascular presence causing a proliferation of the adventitial connective tissue cells. It was usually in association with biliary calculi, which, according to Aschoff, were always formed primarily of cholesterol. There were several metabolic disorders associated with excess of cholesterol, such as jaundice and diabetes. It would be interesting to determine the cholesterol content of the blood in this case.

DERMATITIS VENENATA FROM HAIR DYE. Presented by DR. BECHET.

Mrs. M. F., aged 46, had been using a hair dye for the past five years. Five weeks ago she first noticed considerable redness on her forehead, which rapidly spread to her face and chest. She presented for examination a very extensive, thickened, erythematous eruption, covering most of her face, extending to the neck and chest.

INFECTIOUS ECZEMATOID DERMATITIS. Presented by Drs. MacKEE and WISE.

The patient was a male of 18, who had been under Dr. Fordyce's care at the City Hospital and who had been for a few days under observation at Dr. Fordyce's clinic. The eruption dated back about four weeks. It began as an impetigo which resulted from a purulent discharge from the ear. After remaining localized for a few days, the eruption spread over the entire face and scalp and scattered areas developed on the limbs and trunk. These areas, through the formation and coalescence of new patches, produced solid areas of eruption which involved the entire upper and lower limbs and the abdomen. The eruption consisted of a marked serous exudation—in places seropurulent and crusting. There was considerable erythema and some œdema and, in a few places, vesiculation. In localities where the eruption had existed for two or three weeks, there were fewer signs of inflammation and the skin was thickened, scaly and, in places, crusted. The patient complained of a burning sensation and pain and stiffness if the affected areas were allowed to become dry. Wet, mildly antiseptic dressings had been applied constantly, but the improvement had not been marked. Vaccine treatment had just been instituted. The case appeared to be an example of the infectious eczematoid dermatitis as first described by Engman and Mook and later by Fordyce, in which, through a primary pus focus, the system became sensitized to the toxins of the pyogenic bacteria, and a catarrhal dermatitis resulted from the contact of the secretions of the original focus or from the secondary areas.

NÆVUS VASCULOSUS (MULTIPLE). Presented by Drs. MacKEE and WISE.

The patient was a one-year-old baby from Dr. Fordyce's clinic. There was a palm-sized, cavernous nœvus over the left shoulder blade. The interesting

feature of the case was the fact that the centre of the tumor presented an area of ulceration as large as a 25 cent piece. This was thought to indicate one of nature's methods of spontaneous cure. Another interesting feature of the case was the presence of similar but small *nævi* scattered over the chest, abdomen and forehead. These ranged in size from a split-pea to a dime. All the tumors were either present at birth or developed a few days thereafter.

MYCOSIS FUNGOIDES, PREMYCOTIC STAGE. Presented by DR. TRIMBLE.

The patient was a man, aged 65. He was a laborer, born in Ireland. The condition had existed for sixteen months. At first it appeared as a slightly infiltrated, generally distributed, erythematous eruption. Arsenic injections were beneficial, the eruption almost entirely disappearing. Recurrence took place, however, and the lesions were resolving under the second course of arsenic injections. At the time of presentation areas of eruption were still apparent.

DISCUSSION.

DR. WILLIAMS pointed out that years ago the patient had lesions which more strongly suggested a premycotic rash, than those present, although there were never any mycotic tumors or nodules to be found.

CHANCER OF THE PUBIS (REINFECTION?). Presented by DR. PAROUCIAN.

Frank B., aged 35, born in Germany, single, waiter by occupation. In the latter part of February, 1914, a chancre appeared on the scrotum, followed in a few days by a meatal chancre. *Spirochætæ pallidæ* were found in both lesions. Roseola and general luetic symptoms manifested themselves, and the Wassermann reaction was strongly positive. On April 7th, 1914, one intravenous injection of salvarsan was administered, succeeded by twelve or fifteen mercury salicylate injections.

During the latter part of the summer, the Wassermann became negative and he discontinued his visits. On December 29th, 1914, he visited the Gouverneur Clinic, with the lesion on his pubis seen on presentation.

The sore was about the size of a dime, sharply circumscribed, elevated and markedly indurated; it was situated about one and one-half inches from the root of the penis, to the left of the median line. The duration of the sore was since December 24th, 1914. The Wassermann reaction, December 31st, 1914, was negative; the examination for *spirochætæ* was negative. On his first visit one of the speaker's associates had prescribed ungt. hydrarg. ammon., which might account for the negative *spirochætæ* examination.

No treatment was given, in order to watch the further progress of the case.

DISCUSSION.

DR. Lusk regarded the case as one of reinfection.

DR. GOLDENBERG said that while the ulcer on the pubic region was in its clinical aspect very suggestive of an initial lesion, save for the absence of *spirochætæ*, he expressed his scepticism about the large number of reinfections which had been observed since the salvarsan era. Further observation was necessary to determine if we were here dealing with a true reinfection or a so-called "solitary secondary lesion" (pseudo-chancere). He related an instance from his own experience, where a married man with tertiary syphilis, under salvarsan treatment, developed two indurated lesions, clinically chancres, and a typical macular syphilide. This diagnosis was corroborated by a number of dermatologists. The roseola promptly yielded to salvarsan injections, the indurated papules on the penis were exceedingly obstinate; they only disappeared after three months or more under com-

bined mercury (calomel injections) and salvarsan treatment. He considered his case a superinfection rather than a reinfection, and cited a case lately reported by Poehlmann of superinfection in a tabetic. Dr. Goldenberg also explained that reinfection was conceivable only in cured cases, but that superinfection presupposed an active syphilis, as, for instance, tabes, in which the patient acquired a new chancre while the effects of the old lues still remained.

DR. WILLIAMS was unable to satisfy himself that any essential difference existed between super and reinfection.

DR. LAPOWSKI asserted that the main conception of reinfection implied that the previous syphilitic infection was totally cured. The clinical appearance alone—even when it presented itself in the form of ulcers, glands, and macular eruption—could not be considered as reinfection unless it was at the same time accepted that the previous infection was cured.

LINEAR KELOID WITH LICHENOID PAPULES. Presented by DR. LAPOWSKI.

The patient, a young man, gave no history of trauma. The lesions on the inner side of the right scroto-femoral region were of seven years' duration. The upper part was hard to the touch, stretching in the longitudinal axis of the thigh about three and one-half inches, in linear form. It was neither infiltrated nor pruritic. There were no glands.

DISCUSSION.

DR. GOLDENBERG said that the case was either lichen planus verrucosus or lichen chronicus circumscriptus. In one area it suggested keloid. X-ray treatment offered most hope of cure.

DR. TRIMBLE thought that the possibility of a nævus could not be excluded. In defense of this view he said that many types of nævi developed after birth, that congenital tendencies in cell proliferation might exist, which became clinically manifest months or years after birth.

TUBERCULIDE OR LICHEN PLANUS? Presented by DR. LAPOWSKI.

The patient was a male, 52 years old; thirty years ago he injured his left knee during military service, and was treated in a hospital. Ten years ago the same leg became swollen from the knee down, the swelling lasting to the time of presentation. He was treated in a dispensary, by injections into the lumbar region. Eight months ago the eruption, for which he was presented, appeared. The Wassermann reaction, taken four times, was always negative.

The left leg was swollen from the knee down to the ankle, œdematous, hard; the lower part was contracted, the skin tightened, the circumference thinner; the skin was not movable, but adherent to the bone. From the malleolus to the toes the integument was swollen and œdematous. The surface of the skin, from the knee down to the toes, was covered with papular, hæmorrhagic efflorescences, arranged in half-rings and in rings, in some places coalescing into patches. The separate papules were hæmorrhagic, the patches were evenly infiltrated, their surface shiny and lichen-like. There was no itching. Minute scars were scattered over the leg. The rest of the body and mucous membranes were normal.

DISCUSSION.

DR. GOLDENBERG remembered having seen the patient two years ago, when the case was clearly a lichen verrucosus.

DR. LAPOWSKI, closing the discussion, said that the swollen knee, hardness of the œdema and scars all suggested tuberculosis, and that the lesions were tuberculides, resembling lichen planus, in his opinion.

RECURRENT LUPUS VULGARIS. Presented by DR. BECHET.

C. S., female, aged 16, first-noticed the lesion six years ago. After it had been present for six months it was excised, and she remained entirely well for three years; it then recurred. After cauterization the lesion healed entirely, but again recurred six months ago. She had on the left upper neck, at the ramus of the jaw, a scar one and a half inches long by one half an inch wide, with active lesions at its margins. The "apple jelly" nodules, and the ulceration peculiar to lupus vulgaris were present. Her general health was excellent. Her nationality was Russian, and she became infected in that country.

BLASTOMYCOSIS. Presented by DR. BECHET.

P. C., aged 70, from the service of Dr. Kingsbury at the N. Y. Skin and Cancer Hospital, had been a horse-car driver until 18 years ago, and since then a motorman. His present trouble began about six months ago as a small papule on the right cheek, which he repeatedly injured in shaving. It slowly increased in size, and two months later several new lesions appeared on the same side of the face. The eruption consisted of several elevated lesions of a dark red color, and markedly verrucous appearance. From the fissured and papillomatous surface of the largest lesion, a thin, purulent secretion could be expressed, smears of which showed a few encapsulated spores. These were ovoid in shape, and an occasional budding form was seen. Cultures had been made, but no report had as yet been received. The Wassermann reaction was negative.

LUPUS ERYTHEMATOSUS ACUTUS. Presented by DRs. MACKEE and WISE.

S. K., aged 40, a tinsmith by trade, presented an eruption which involved both ears, the sides and back of the neck, the temples, portions of the face and the dorsum of the hands. On the ears the skin was reddish-blue, glistening and apparently atrophic. On the neck, the lesions were oedematous, dark red to purplish, some nodular, others circinate, and still others appearing as broken segments. The segmented lesions consisted of patches with a raised and infiltrated border, enclosing areas of shriveled, atrophic and slightly scaly skin. The nodular lesions were infiltrated and varied in size from a pea to a hazel nut. On the temple, there was an oval lesion, with a raised border and an atrophic, sunken centre. The eyelids were reddened and oedematous. The back of the hands presented several flattened, reddish-blue nodules. Itching was said to be intense.

The duration of the disease was four years. The eruption presented an acute exacerbation, which had begun about three months ago, and had progressed without abatement of the acute inflammatory symptoms, up to the time of presentation.

The family and personal history were negative. The Wassermann test was negative. A section, removed from an actively inflamed nodule in the back of the neck, confirmed the diagnosis.*

DISCUSSION.

DR. LAPOWSKI regarded the case as one of sarcoid. He said that a positive diagnosis of lupus erythematosus could not be made microscopically.

DR. TRIMBLE agreed with Dr. Lapowski in his point of view regarding the histology of the disease. He did not think too much importance should be attached to the histological examination alone. He thought the case an intensely interesting one, and very difficult of diagnosis, especially after such a brief examination. The grouped circinate arrangement of some of the nodules strongly sug-

* All the lesions involuted within two weeks, under local treatment with lotio alba.

gested syphilis; whereas some of the neck lesions and those of the ears were much like those of erythematous lupus. He further considered the nodular character of the lesions as evidence against lupus erythematosus, unless it were the nodular form of Crocker, a disease the existence of which he doubted. Sarcoid tumors, however, he said, were more livid and developed less acutely than did those in the case under discussion.

DR. HEIMANN stated that whereas lupus erythematousus had no pathognomonic histological structure, in classical cases it was nevertheless very suggestive, and could not be confused with sarcoid, the picture of which was fairly typical under the microscope. On the other hand, the case presented might be another variety of cutaneous tuberculosis or tuberculide. Clinically, the case impressed him as one of lupus erythematousus.

DR. WISE pointed out that the lesions on the hand were characteristic of lupus erythematousus, as were those on the face. Aside from the confirmatory histopathological picture of a section removed from one of the lesions, the question of sarcoid would be eliminated by the acuteness and intense œdema of the eruption.

ALOPECIA SYPHILITICA. Presented by Drs. MacKEE and WISE.

The patient, W. G., aged 19, negro, male, from Dr. Fordyce's clinic, gave a history of a penile chancre five months ago. When presented, the scalp exhibited a typical picture of patchy alopecia, more accentuated than usual, on account of the close-cropped, kinky hair.

LICHEN PLANUS AND PITYRIASIS ROSEA. Presented by Dr. LAPOWSKI.

The patient was a male, 23 years old; a year ago he appeared with lichen planus acutus universalis. Under treatment with sublimate injections, the lesions subsided, leaving only few pin-head efflorescences upon the anterior and posterior surfaces of the penis, and a few patches on the trunk. A month ago, pityriasis rosea, in classic medallion arrangements, appeared, and lesions of lichen planus developed on the edges of the medallions. The patches of pityriasis rosea disappeared under treatment. The lichen remained.

CASE FOR DIAGNOSIS. Presented by Dr. WILLIAMS.

Samuel S., aged 13 years, was from Dr. Trimble's clinic at the University and Bellevue College. He had a boil on the neck two to three years ago. There were no other previous skin diseases, and no joint symptoms at any time. About one year ago the gums of the upper jaw bled very easily, apparently from a decaying tooth. About seven months ago he noticed a red spot, about the size of a thumb nail, on the inner aspect of the right leg. There was a little scaling, but papules were not noticed. The spot had increased gradually since then, until it had attained about two by three inches in size; other similar spots had appeared, the last being just below the inner aspect of the right knee. Itching was absent, and had never been a marked feature. The surface was smooth and dry, with a slight tendency to scaliness, but as the whole body was somewhat xerodermatous, it was a question whether the scaling was an essential feature of the disease. The border was sharply defined, but not elevated. There was no thickening or infiltration of the skin. The dull, brownish-red color of the plaque, which was almost the only thing to distinguish it from the surrounding skin, seemed to be due to multiple minute hæmorrhages into the cutis vera.

DISCUSSION.

DR. LAPOWSKI considered the case as one of the patchy form of tuberculide.

DR. GOLDENBERG could not make a positive diagnosis, but suggested, on ac-

count of the slight desquamation and atrophy, the possibility of a lupus erythematosus of the teleangiectatic type.

BAZIN'S DISEASE. Presented by Dr. Lusk.

The patient was a young woman, aged 22, a Jewess. The father was living and well at the age of 58; the mother died of heart trouble last year, aged 52. One brother died last year of tuberculosis, aged 20. One brother was living and well, aged 29; another brother was living, and had acne indurata, aged 20. The trouble began four years ago and this was the third relapse. The lesions were bilateral and ranged from the deep-seated nodule to necrosis *en masse*.

DISCUSSION.

Dr. LAPOWSKI regarded the case as one of multiple gummata and suggested active antisiphilitic medication. It was true, he said, that even when the lesions healed it was impossible to judge *ex juvantibus*. But after an active antisiphilitic treatment (calomel injections) relapses would be less severe or may not occur at all if the case were lues.

Dr. TRIMBLE favored the diagnosis of erythema induratum, and pointed out that such cases got well under mixed treatment; therefore the giving of such treatment as a therapeutic test was of little value.

DERMATITIS HERPETIFORMIS. Presented by Drs. MacKEE and WISE.

M. F., aged 51, female, from Dr. Fordyce's clinic, presented a widely disseminated and well-marked eruption, consisting of broken vesicles, scratched papules, urticarial wheals and deeply pigmented areas, located chiefly on the back, chest and extremities. The duration of the disease was about two years. The eruption which she presented was an acute exacerbation, itching intensely.

MULTIPLE TELEANGIECTASIE (FAMILIAL). Presented by Drs. MacKEE and WISE.

A mother and her two children presented a network of arborescent dilated capillaries, situated on the back, between the shoulder blades. The condition made its appearance shortly after birth. Another child—a boy—was said to present the same lesions in the same locality. The patients visited the clinic for scabies.

LUPUS ERYTHEMATOSUS OF FACE AND HANDS. Presented by Drs. MacKEE and WISE.

T. B., a girl of 11, from Dr. Fordyce's clinic, presented an eruption of typical lupus erythematosus of the face and the back of the hands, as well as a few areas on the scalp. An interesting feature of the eruption was the presence of plaques on both upper eyelids. The personal history was negative; an uncle had died of tuberculosis, but had never lived in the same dwelling with the patient.

ADENITIS GUMMOSA OF THE NECK. Presented by Drs. MacKEE and WISE.

G. K., aged 23, female, single, from Dr. Fordyce's clinic, stated that she had the initial lesion of syphilis about eight years ago, followed by secondaries. The Wassermann reaction was positive. At the time of presentation, she presented two broken-down gummous glands, anterior to the sterno-mastoid muscles

EPITHELIOMA, OR SINUS ORIFICE OF PALATE? Presented by DR. LAPOWSKI.

The patient was a male, 50 years of age. There was no history of any disease; according to the patient's statement, the lesion on the hard palate was of twenty years' duration. It was impossible to determine how it started and since when the lesion began to assume the appearance seen on presentation. In the centre of the raphe of the hard palate was a pea-size efflorescence with a red, granulating, moist floor, surrounded by a complete ring of soft, reddish-gray tissue. Neither perforation nor sinus could be detected. There were no glands. The Wassermann reaction was negative.

DISCUSSION.

DR. WISE said that if it had been an epithelioma of the mucous membrane of the mouth, even if only of three years' duration, the patient would not be alive to tell the tale. Primary epithelioma of the buccal mucosa was always a rapidly progressive disease. If left untreated, the patients rarely survived longer than one or two years.

DR. WILLIAMS suggested its being a sinus or an embryonal cyst.

DR. LAPOWSKI, in closing the discussion, said that the previous history could not be determined. He asked for opinions as to the nature of the case. To him, the suggestion of epithelioma would be acceptable.

GUMMATA OF PENIS AND STERNUM. Presented by DR. BAUGHMAN.

The patient was a man, T. di G., 36 years old. Fifteen years ago he had a chancre of the penis, followed several years later by gummata of legs, knees and buttocks, leaving scars. During this time he received about 140 intramuscular injections, but no treatment since then, until he appeared at the dispensary two weeks before this report.

On the prepuce, posterior to the ulcer glandularis, at the site of the chancre, was a gummatus lesion with a sharply defined, indurated border and a granulating floor. On the lower surface of the penis, near the glans, a sharply defined, pea-sized gumma was shown; and a pea-sized gumma was seen at the glans penis.

On the sternum was a plum-sized, soft, round, abscesslike tumor, covered with normal skin; there was no pain on pressure.

Scars of various sizes and forms were on the legs, knees and buttocks.

The Wassermann reaction was four plus.

DISCUSSION.

DR. LAPOWSKI asked for views upon the correct treatment of such a lesion as was seen upon the patient's sternum. The tumor gave evident signs of fluctuation and it was a question whether aspiration of the fluid was indicated or not, for he was not sure whether such fluid could resorb, even though syphilitic, under anti-syphilitic treatment.

DR. MACKEE said that he agreed with the diagnosis of gumma of the sternum. He had seen two cases of gumma of the forehead that began as an osteomyelitis and periostitis. The tumors were oval in shape and were about three inches long by two inches wide. At first they were firm, but later they became very soft and fluctuating. The overlying skin was unaffected. The lesions disappeared promptly under vigorous antisiphilitic treatment without aspiration, drainage or any operation whatsoever.

DR. GILMOUR said that he could corroborate Dr. MacKee's views by his own experience with such cases. The thickness of the tissue between the surface of the skin and the underlying fluctuating tumors, as also the failure to find an orifice of the sebaceous duct, spoke against a sebaceous cyst.

DR. POLLITZER disagreed with the previous speakers. He said that if the lesion had been a gumma he should have expected more infiltration, and a bony border about the base of the lesion, both of which were wanting. The firm elastic resistance of the tumor also favored the diagnosis of cyst.

DR. LAPOWSKI said that he regarded the lesion as a gumma so fluidified, and with the contents under such tension as to present the clinical features of a cyst. The inelasticity of the fluid was such as to prevent the determination of a bony margin, or infiltration, even if such features were actually present. Such being the case, he added, that a course of antisyphilitic treatment would determine the diagnosis, for if the lesion disappeared, a simple cyst could be excluded.

DR. HEIMANN mentioned that he had seen a case with cystic gummata of the parietal and frontal bones which rapidly vanished under the administration of salvarsan and mercury.

DR. WILLIAMS stated that a case of the types mentioned by Drs. MacKee and Heimann, with cystic gummata on the frontal bone, disappeared within a month, under vigorous treatment.

EXTENSIVE ALOPECIA AREATA. Presented by DR. GILMOUR.

SUPERFICIAL GUMMATA OF THE HAND. Presented by DR. BAUGHMAN.

LICHEN PLANUS. Presented by DR. BAUGHMAN.

The patient, C. S., was a female, 33 years old. Typical lesions of lichen planus first appeared on the feet three months ago, and since then became disseminated over the neck, trunk and extremities. On the flexor and extensor surfaces of the forearms, the backs of the hands and fingers, the legs, and the upper surfaces of the feet, were large pea-size lesions, flat and shiny. The vermilion borders of the lips and the mucous membrane of the mouth showed numerous white, pin-head-sized points, small white patches, and white branching lines. The patient complained of intense itching of the skin, but no symptoms were referred to the mouth.

DISCUSSION.

DR. POLLITZER pointed out that the œdema in the lesions accounted for their size and roundness. He said that he did not regard them as either the obtuse nor the verrucous form of lichen, which depended more on hyperkeratosis than œdema for size and appearance.

LUPUS VULGARIS. Presented by DR. BECHET.

The patient was a male, aged 27 years. He presented for examination a very extensive nodular and hypertrophic eruption on the nose, the left cheek beneath the eye, the ears, and beneath the ramus of the lower jaw. The lobules of the ears had undergone ulcerative changes, with resulting loss of tissue. A number of shallow ulcers with considerable crusting were scattered through the lesions. The lesions on the nose seemed most prone to nodular formation. There were a number of old scars on the neck, following the excision of infected glands. The patient stated that his trouble began when he was four years old, first as a glandular enlargement on the neck beneath the jaw and secondarily as a chronic, nodular, ulcerative process in the scar tissue of the site of excision of the glands. The report of the Wassermann reaction, received the day after presentation, was negative.

DISCUSSION.

DR. LAPOWSKI said that he considered the case one of nodular gummata. He said the type of the scars, the nature of the bony involvement, the semiannular arrangement of the lesions on the neck, all suggested syphilis rather than tuberculosis.

DR. CLARKE considered the case one of lues.

DR. MACKEE said that he could not differentiate in this case between syphilis and tuberculosis, especially without having an opportunity of studying the case. The bone lesions appeared to affect the shaft of the bones rather than their epiphyses, which would, of course, favor a diagnosis of syphilis. The speaker thought that an X-ray examination of the bone lesions would probably shed considerable light upon the nature of the affection.

MOLLUSCUM CONTAGIOSUM IN AN ADULT. Presented by DR. BECHET.

LICHEN PLANUS. Presented by DR. BECHET.

CHANCER OF THE UPPER LIP WITH ROSEOLA. Presented by DR. OCTIS.

LICHEN PLANUS SHOWING STRIATED LESIONS. Presented by Drs. MacKEE and WISE.

ARGYRIA. Presented by DR. PAROUNAGIAN.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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Assisted by

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DERMATOLOGISCHE WOCHENSCHRIFT.

(Feb. 13, 1915, lx, No. 7.)

Abstracted by MAX SCHEER, M.D.

CONTRIBUTION TO THE EXPERIMENTAL ETIOLOGY OF PELLAGRA. K RÜHL, p. 176 (conclusion).

The exposure to red light had a deleterious effect on the development of young guinea pigs and rats: the author attributes this not to the influence of the red light itself, but to the exclusion of the violet and ultra-violet rays of the spectrum. As a result of his observations, the author concludes that neither absence of vitamins from the diet nor the presence of a photo-dynamic influence can be looked upon as primary causative factors in the ætiology of pellagra.

(Ibidem, Feb. 20, 1915, lx, No. 8.)

ATROPHIA MACULOSA CUTIS LUETICA. R. POLLAND, p. 193.

The author cites a case of a 26 year old prostitute, who had been under his observation and treatment for 3 years; there were no unusually severe symptoms; she had on three occasions widespread eruptions, the first two macular, the third papular. These all disappeared promptly with mercurial treatment. The patient was otherwise in good general condition and there were no evidences of tuberculosis.

During the third year of her disease, and one year after the last eruption, macules were first noticed, corresponding to the areas where the eruption had been, especially on the trunk and thighs; these macules were bluish-violet or steel blue (simulating maculæ cœruleæ), and did not yield to a course of mercury; in the course of the next few months the lesions changed their appearance and presented the following picture: On various parts of the skin there were oval shaped, lentil sized, tumor-like projections, of a tendinous white color and furrowed surface; these pseudo-tumors were so easily compressible that the palpating finger received the impression of entering a sac below the level of the skin. On stretching the skin, these projections entirely disappeared and in their places the skin appeared shiny, slightly bluish, and furrowed like cigarette-paper. On raising these projections, they gave the impression of a sac filled with a downy substance. There were no pathological changes in the surrounding skin.

The author reports a condition very similar to the above, occurring in a man about the end of the second year of his lues. In another similar case observed by the author, he reports the following histological findings: The epidermis not much changed, at the most only somewhat thinned. The boundary of the cutis presents an almost straight line, practically no papillary projections, and only in very few places were there rete pegs, and these were hardly recognizable. The cutis proper consisted of a delicate connective tissue, poor in nuclei and vessels and almost without elastic fibres; here and there were slight remains of follicles, sebaceous and sweat glands, all grown through with connective tissue. Pigment was entirely absent; the few vessels present were surrounded by a round cell infiltration.

The author considers the remains of a chancre to be an atrophy of a similar nature, and not a true scar; and he looks upon leucoderma as a slight degree of the same process; in other words, an atrophy due to pressure of an infiltrate. The atrophy may also be due in part to toxines, just as in toxituberculides; this would account for the fact that on the trunk there were more atrophic lesions than there were preceding syphilitic lesions.

The pathogenesis of this affection the author sums up as follows: The spirochæte induces a circumscribed infiltrate of a chronic inflammatory nature and of variable degree. The pressure of the infiltrate, as well as the toxines of the spirochætæ, damage the cutaneous tissues; in the course of the process not only is the infiltrate absorbed, but at times there is an extensive loss of tissues of the skin, follicles, hair, sebaceous and sweat glands, pigment, and, particularly, the elastic fibres. The epithelium remains intact, and, owing to the disappearance of so many of the important elements of the cutis, the overlying epidermis is too large and becomes furrowed; the result is an atrophic scar. For the development of the above phenomenon, a special and as yet unknown predisposition is necessary.

*(Ibidem, Feb. 27, 1915, lx, No. 9.)*A CASE OF SYPHILIS, WITH PRIMARY LESION IN THE VAGINA.
L. NEILSON, p. 209.

The author describes the case of a female patient, who, at the time of observation, was six months pregnant. For the past two months there were papules in

the ano-genital region, roseola, hair-loss, general adenopathy, mucous plaques and cephalalgia. On the anterior wall of the vagina, just to the left of the mid-line and 3 cm. below the cervico-vaginal junction, was the upper border of an ulcer measuring $1\frac{1}{2}$ cm. in length and 2 cm. in breadth. The lesion was roughly triangular in shape, with rounded, sharply defined, elevated edges, surrounded by normal mucous membrane; the base was dark red, smooth, and bled easily; induration was pronounced and numerous spirochaetæ were present. Enlargement of pelvic glands could not be determined; the enlargement of the inguinal glands was only moderate and part of the general adenopathy. The lesion must have been present at least three months.

Chancres of the vagina are seldom described, both because they are uncommon and also very small and of short duration and easily overlooked; large indurated chancres in this region are very exceptional. Their rarity here may be due to the thick resistant epithelium, the dilatability of the vagina, so that traumata occur less easily, as well as to the acid secretions acting as germicides.

(*Ibidem*, Mar. 6, 1915, lx, No. 10.)

CONTRALUESIN OF RICHTER; ITS PRACTICAL SIGNIFICANCE. P. SCHARFF, p. 233.

Contraluesin is a combination, in an artificial serum, of colloidal gold amalgam with salicyl, sozoidol, quinine and bichloride. In its pharmacological action, gold is similar to mercury in many respects; it causes stomatitis, salivation, and acts on the heart, arterial system, glands, bones and periosteum, and can cause a Herxheimer reaction. Gold is also an antidote to mercury, so that in combination with it the latter can be given in larger doses. The quinine, in virtue of its affinity for blood cells, and the arsenic for skin and nerve tissues, act as guides for the conduction of the specific gold and mercury to the morbid tissues, just as the dye stuff in salvarsan conveys the arsenic. Contraluesin is rapidly absorbed, in fact, more so than gray oil or salicylate of mercury. The average dose for injection is 1.5 cm., which contains the relatively large amount of 0.15 mercury. Pain is minimal, stomatitis very slight, and enteritis never occurs. The injections are given every four to seven days, and eight to ten constitute a course; after an interval of two weeks, four to six more are given.

The author combines the treatment with salvarsan, though when the latter is contraindicated, he considers contraluesin the best substitute. In 12 primary cases of syphilis treated by the combined contraluesin and salvarsan, the Wassermann remained negative, and there were no further clinical manifestations of lues for $1\frac{1}{2}$ years. In 40 secondary and tertiary cases the results were better, in the author's opinion, than with any other method of treatment. In several cases a Herxheimer reaction was observed in the submaxillary glands in a patient whose chancre was on the lip and in the inguinal glands, in association with chancre of the genital region; this reaction consisted in a temporary tumefaction of the glands following the injection. As with salvarsan, at least 10 years must elapse before a definite opinion can be given of its place in syphilis therapy. And as with all forms of specific treatment, the general condition of the patient must not be neglected.

(*Ibidem*, Mar. 13, 1915, lx, No. 11.)

CONCERNING THE BEHAVIOR OF SALVARSAN TOWARD SILVER-ALBUMINATE PREPARATIONS, AND THE COMBINED THERAPY WITH BOTH. T. SCHUMACHER, p. 257.

Preparations of salvarsan or neosalvarsan possess the property, in the presence of an alkali, of setting free colloidal silver in a nascent state from albuminous solutions of silver. The more alkali present, the more rapid is the change. This

is of use as a chemical test for salvarsan, for the latter, even in very weak dilutions, will, in the presence of alkali, precipitate colloidal silver from a very dilute silver solution; this precipitate has a tea-brown color. In two cases of gonorrhœa, treated by injections of albargin solutions, and who received salvarsan for coincident syphilis, the author observed a very rapid diminution in the amount of urethral discharge and a rapid cure of the gonorrhœa. The salvarsan eliminated in the urine had evidently caused a similar setting free of colloidal silver from the albargin solution and greatly enhanced its gonococcicidal effect. The presence of alkali in the tissues, while small in amount compared to that used in test tube experiments, nevertheless assured a slower evolution of the colloidal silver and hence a more prolonged action. As it is hardly justifiable, in an ordinary gonorrhœa, to administer a by no means harmless remedy like salvarsan, the author is at present experimenting with a less toxic substitute for it.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Feb. 26, 1915, xli, No. 9.)

Abstracted by CLARENCE ALLEN BAER, M.D.

INJURY TO RESPIRATORY CENTRE FROM INJECTION OF NEOSALVARSAN INTO THE SPINAL CANAL. JOSEPH LEWINSOHN, p. 248.

Report of one case with detailed history.

(*Ibidem*, Mar. 11, 1915, xli, No. 11.)

AGGLUTINATION OF THE SPIROCHÆTA PALLIDA. A. KISSMEYER, p. 306.

Kissmeyer proceeds with his agglutination tests in exactly the same way that agglutination tests are done in other diseases. The serum of syphilitics will agglutinate the spirochæta pallida in a specific manner. The reaction is not constant in every syphilitic, but the reaction has been demonstrated in all stages of syphilis. What the relationship between agglutination and treatment is, has not been determined, although Kissmeyer is working along this line. A strong agglutinine can be made in the blood of rabbits by intravenous injection of cultures of spirochæta pallida.

CONCERNING THE TAR TREATMENT OF CHRONIC ECZEMA. F. THIEDERING, p. 311.

The art of properly using tar in the treatment of eczema consists in producing the slightest possible irritation of the skin, while using the greatest possible amount of penetrating therapy. An eczematous skin that is treated with tar is hypersensitized against water. The method of procedure recommended is as follows: Four days of treating the eczema, night and morning, with tar, without soap and washing. Then three days of night and morning inunctions with 2 per cent. salicylic acid ointment, without soap and washing. On the eighth day a single washing with a potassium soap. This cycle may be repeated.

THE FIGHT AGAINST PEDICULOSIS IN THE ARMY. TH. VON MARSCHALKO, p. 316.

The author recommends the use of oil of turpentine, both as a spray and as an ointment.

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(*Ibidem*, Mar. 18, 1915, xli, No. 12.)

SODIUM SALVARSAN (SALVARSAN NATRIUM). HEINRICH LOEB, p. 335.

Sodium salvarsan, known as number 1206, contains 20 per cent. arsenic, the same as neosalvarsan. The dosage is the same as that of neosalvarsan. The preparation is a golden yellow powder, easily soluble in water, yielding a yellow liquid of alkaline reaction and a peculiar aromatic odor. Upon exposure to the air, the preparation oxidizes, becomes darker and more toxic. The solution for use is prepared like that of neosalvarsan.

The author has treated 94 cases with sodium salvarsan. Only one intramuscular injection was given, followed by 3 hours of local pain. Mercury salicylate injections were used during the period of treatment. One intravenous sodium salvarsan and two intramuscular mercury salicylate injections were given weekly, for four or five weeks. The preparation was as efficient and as well borne as salvarsan and neosalvarsan injections, and as easily prepared and administered as neosalvarsan.

Sodium salvarsan is of great importance, because it is well for us to have several spirochætidal preparations in order to attack the spirochæta pallida from various sides.

FIGHT AGAINST THE PEDICULOSIS PEST. HILMAR TESKE, p. 346.

Teske recommends the use of anise oil on the person, spraying of bichloride solution upon walls, etc., and disinfection of the clothing in a steam bake oven.

FIGHT AGAINST THE PEDICULOSIS PEST. F. RABE, p. 347.

Rabe recommends the use of powdered pepper, oil of cloves, camphor, naphthaline, and bichloride, in glycerine-water solution.

(*Ibidem*, Mar. 25, 1915, xli, No. 13.)

TREATMENT OF HEMORRHOIDS AND ECZEMA ANALIS. FR. HAMMER, p. 376.

The author gives a detailed description of the method of procedure in treating cases of hæmorrhoids coexistent with anal eczema. Nothing new is advanced.

(*Ibidem*, April 1, 1915, xli, No. 14.)

THE FIGHT AGAINST PEDICULOSIS. CARL KISSKALT and ALEXANDER FRIEDMANN, p. 397.

The authors give a minute explanation of the method of handling of patients and clothing in large epidemics of pediculosis.

(*Ibidem*, April 8, 1915, xli, No. 15.)

RECOGNITION OF CONGENITAL SYPHILIS IN INFANTS. MAX SOLDIN and FRITZ LESSER, p. 429.

The observations were made on children who were admitted to the Infant's Hospital for disturbances other than syphilis. Therefore, none of these children had marked early recognizable symptoms of syphilis. Snuffles were not pronounced,

very few skin rashes were seen, epitrochlear glands were hardly palpable, swellings of the spleen and liver were not important. Many patients showed no syphilitic manifestations. The Wassermann reactions, in most of these cases, were negative, although those of the mothers were invariably positive. An explanation of the negative Wassermann and the absence of clinical symptoms in the infants is given as follows: During the intrauterine life of the child, immunizing substances from the syphilitic mother were transferred to the children, and these immunizing substances hindered the further transplantation of the spirochætæ to the child. Even in cases where the Wassermann reaction was positive in the infants, no clinical symptoms were observable.

In conclusion, the authors state that the practical application of this study lies in the fact that when there be the slightest suspicion of congenital syphilis, the physician ought not to be satisfied with an examination of the infant's blood alone, but should always have a serological examination made of the mother.

(*Ibidem*, April 15, 1915, xli, No. 16.)

CONCERNING THE TAR TREATMENT OF CHRONIC ECZEMA. B. CHAGES, p. 462.

The author takes exception to an article that appeared in No. 11 of this Journal, in which a statement was made that tar executes its mission on the skin by producing an irritation. The author contends that tar is a reducing agent and works along that chemical line, although if too concentrated mixtures be used on an injured skin, inflammation might occur. (Tar is a collective name and many different properties and substances are included under it.) The use of soap baths during tar treatment is unnecessary. In chronic eczemas in which excessive secretion has mostly disappeared, it is sufficient to paint the lesions two or three days with concentrated coal-tar. Where the concentrated coal-tar cannot be used for various reasons, the coal-tar preparations, such as liantral or purium, should be used. It is a mistake to use wood-tar.

(*Ibidem*, April 22, 1915, xli, No. 17.)

THE TREATMENT OF CHRONIC AND SUBACUTE ECZEMA WITH FILTERED ROENTGEN RAYS. FRITZ MEYER, p. 492.

The author gives a history of the treatment of eczemas, suggested by Hahn, in 1901, giving some idea of the dosage, distance, type of tube, etc., that were used. The author founds his report on 38 patients; 7 with subacute eczemas and 31 with chronic eczema. The treatments were given with X-rays only, i.e., no ointments or local treatments were used in addition. In 36, complete cure was obtained. The patients could not come at definite intervals because of their work, and for this reason Meyer states that the use of filters was of the greatest value because, first, in the shortest possible time the desired result can be obtained; second, this result can be obtained with great regularity, and, third, the patient's occupation need not be interrupted during the treatment.

In conclusion, the author states that by the use of hard, filtered rays in chronic and subacute eczema, results can be obtained with less danger of subsequent re-action and with greater regularity. The explanation is that there is a greater biological efficiency in hard rays. It is possible that by increasing the thickness of the filter the result may be obtained in much shorter time than at present. Meyer states that we must get away from the idea that only soft rays are of use in treating skin affections.

RUSSKI JOORNAL KOJNIKH E VENERICHESKIKH BOLEZNEI.

(April, 1914, xxvii, No. 4.)

Abstracted by M. L. RAVITCH, M.D.

TINEA TONSURANS AND FAVOSA IN THE PROVINCE OF BESSARABIA. MGEBOV, p. 299.

Since the study of this disease in different countries or different districts of a country is a contributing agent to greater knowledge of the disease, Mgebrov paid particular attention to every case of tinea tonsurans and favosa that came under his observation in 1913. Cultures were made on a maltose-peptone-agar and the glucose-peptone-agar of Sabouraud. One hundred and seventy cases were investigated, classified as follows: From Kishinev, 157; from different districts of Bessarabia, 19. Of these cases, 151 were Jews and 25 were Gentiles. In regard to sexes, the distribution was as follows: Males, 91; females, 25. In regard to age, as follows:

Up to 1½ years...	0	23 years, 1 (favus)
1½ to 2 " ...	2	25 " 2 (Microsporon lanosum corporia)
2 to 5 " ...	52	34 " 1 (Tr. gypseum barbæ)
6 to 18 " ...	115	40 " 1 (favus)
21 " ...	1 (favus)	45 " 1 (favus).

As to the distribution anatomically, 170 were located on the hairy part of the head (24 of these cases also had lesions on the cheek or neck); one was of the beard, three on the cheek and two on the trunk.

Since the population of Kishinev is composed mostly of Jews, the latter showed a greater number than the Gentiles. The school age was the most usual one for the incidence of these diseases.

The cultures gave the following results:

Names of spore.	No. of cases.	Gentiles.	Jews.	Per cent. of whole.
Microsporon lanosum	27	14	13	15.4
Trichophyton asteroides (gypseum)	2	2	0	1.2
" crateriforme	8	5	3	4.5
" umbilicatum	2	0	2	1.2
" violaceum	89	4	85	50.5
Achorion Schonleinii	48	0	48	27.2
Totals	176	25	151	100.0

From the table it can be seen that the Trichophyton violaceum and favus predominate, the former much more so than the latter. The endo-ectothrix—Trichophyton asteroides—was rather rare; one of the two cases was of the beard, in a man of thirty years (kerion barbis), the other of the scalp of a girl aged four years (kerion).

Before cultures were made the hair and scales were examined microscopically to determine the nature of the spores, whether endothrix, ectothrix, endo-ectothrix or favus. Microscopically, Mgebrov never succeeded in finding the Microsporon Audouinii; only one type could be demonstrated, the Microsporon lanosum. Three different types of the endothrix were demonstrated, Trichophyton violaceum, crateriforme and umbilicatum. In France the crateriforme and acuminata

tum predominate, but in Bessarabia, which is near Roumania, where *Trichophyton violaceum* is found quite often, this latter type of endothrix is prevalent.

Mgebrov claims that different forms of this disease do not show any predilection of sex. He usually found several different forms of the disease in crowded schools, but in families there would be only one form among the various members affected.

The classical description of all forms of this affection tallies very much with that of Sabouraud and other investigators. Regarding therapy, the author regrets that Roentgenotherapy is not more used in Russia for *tinea tonsurans* and *favosa*, as they certainly yield to it if the proper dosage and technique, according to the newest methods, are employed. As an adjunct he employs tar, iodine and chrysarobin. Kerion should be treated with Burrow's solution on compresses, with tincture of iodine afterwards.

A CASE OF URTICARIA PIGMENTOSA. BROTMAN, p. 305.

Brotman exhibited a very interesting case of urticaria pigmentosa in a two year old child, before the pediatric society of Kieff. The parents of the child and her four year old sister were perfectly well. According to the mother's statement, the first red spots appeared on the forehead of the patient, when he was a month old. In the centre there appeared a wheal which soon faded. In a short time spots began to appear on the head, scalp and neck, and later on the whole trunk. A month afterwards, the spots made their appearance on the legs. Itching was slight and soon disappeared entirely. The child's mother consulted several physicians, but no benefit was derived. Dark-red and yellow-brown spots, or pigmented hives, usually appearing in early infancy, and recurrent itching are the chief diagnostic signs of urticaria pigmentosa. According to Pospelov, this affection is a long standing one and may last from ten to twelve years, the spots growing pale and disappearing slowly. According to Kaposi, they may last through life. The first case of urticaria pigmentosa was described by Sangster and Nettleship, in 1869, and later by Pick, Fox and others. It is a very rare affection. Peterson saw only three cases in twenty-four years, two in children and one in a woman nearing the climacteric period. The disease usually appears very early in life,—during the first few weeks, and sometimes it may be noticed immediately after birth.

Nothing is as yet known in regard to the ætiology of this disease.

According to Pick and Fox, the histopathology is not of great importance. Cellular infiltration of mast cells are found in the connective tissue, and there is a thickening of the prickle cells. The intima and muscularis of the blood vessels are not changed, but there is a hyperplasia of the adventitia.

No treatment has been found actually remedial. Sulphur baths are advocated by the author.

THERAPY OF INTERTRIGO. MESCHERSKI, p. 311.

Mescherski says that, according to Milian, intertrigo is an inflammation caused by streptococci and it should not be confounded with erythrasma or eczema marginatum. The treatment of this affection consists in washing the affected parts with soap and water, followed by 90% alcohol two or three times a day. In stubborn cases, tincture of iodine, diluted 1 to 10 is advised. Sometimes solution of nitrate of silver, 1 to 20, is called for.

TREATMENT OF LEPROSY WITH NASTIN. MESCHERSKI, p. 319.

Mescherski quotes Rudolph's experience with the successful use of nastin. He employs a combination treatment. In the first four months, patients receive chaulmoogra oil in ascending doses; in the following three months they get a weekly injection of nastin, again followed by a course of chaulmoogra oil.

CLINICA DERMOSIFILOPATICA DELLA R. UNIVERSITA
DI ROMA.

(January, 1915, xxxii, No. 1.)

Abstracted by G. A. CARLUCCI, M.D.

ON THE FAVORABLE METHOD OF BEHAVIOR OF X-RAYS ON
SEVERAL CUTANEOUS TRANSPLANTS. LUIGI QUINTARELLI, p. 3.

A report of a series of experiments on animals and on some patients suffering with skin lesions. The author is of the opinion that the Roentgen rays are of value in assisting transplants to grow even if the transplant has been placed on a surface of lowered vitality.

THE EFFECT OF EXPERIMENTAL OEDEMA AND STASIS IN SEV-
ERAL CUTANEOUS DISEASES. MICHELE DELZOTTI, p. 19.

CHRONIC FIBROMATOID DERMATITIS DUE TO CAPILLARY ARTE-
RIO-SCLEROSIS OF LUTETIC ORIGIN. PILI ANTONIO, p. 33.

A report of several cases of chronic dermatitis which did not respond to treatment until lutetic remedies were applied.

METHOD OF BEHAVIOR OF LUPOUS GRANULOMAS AND OF SEV-
ERAL EXPERIMENTAL INFLAMMATIONS ON CARTILAGI-
NOUS TISSUE. RUGGIERO ROMEO, p. 51.

A report of several cases of lupus of the nose and a series of experiments carried out on rabbits' ears with injections of cartilaginous tissue, in broth suspension. In the experiments the author was able to cause a slight reproduction of cartilage but he was able to do the same thing with slightly septic suspensions of cartilaginous tissue, and he therefore comes to no definite conclusion.

ACTAS DERMO-SIFILOGRAFICAS.

(February-March, 1914, vi, No. 3.)

Abstracted by G. A. CARLUCCI, M.D.

LUPUS ERYTHEMATOSUS OF THE BUCCAL MUCOSA. A. SAINZ DE
AJA, p. 137.

This condition is relatively frequent; it often coexists in bilateral, independent plaques, with disclike lesions of the face, forehead and ears; it frequently is the continuation of extensive lesions of the surrounding skin; and it is not exceptional to find the lupus as primary in the buccal cavity.

He reports several cases.

DRY GANGRENE OF THE SMALL TOE OF LEFT FOOT FOLLOWING
AN OBLITERATING ENDARTERITIS OF SYPHILITIC ORIGIN.
J. SANZ DE GRADO, p. 148.

A CASE OF GANGRENE OF THE FOOT DUE TO SYPHILITIC OB-
LITERATING ARTERITIS. M. FORNS, p. 151.

REVISTA CLINICA DE MADRID.

(Jan. 30, 1915, vii, No. 2.)

Abstracted by G. A. CARLUCCI, M.D.

THE SO-CALLED PIGMENTARY SYPHILIS AND THE SYPHILITIC MELANODERMA. JOSE S. COVISA, p. 49.

The author discusses this condition, considering it quite rare. He reports a case that clinically resembled Addison's disease on account of the extensive pigmentation. On close questioning typical syphilitic symptoms were elicited; the patient was then given a series of injections of neosalvarsan, following which she rapidly improved.

THE TREATMENT OF IMPETIGO. ALVAREZ SAINT DE AJA, p. 54.

The author divides the treatment into three stages, namely, 1, combat the cause (streptococcus) 2, remove the crusts, 3, disinfect the cutaneous erosions and protect them.

The first step would be the use of vaccines which he thinks are of value only in isolated cases. The second step is best accomplished by application of poultices, plasters, and different ointments until the skin is perfectly free of crusts.

Having accomplished this, the next and last step is the healing of the erosions. He uses several ointments: one, yellow oxide of mercury for the parasitic impetigo of the scalp, another of tannin and calomel in cases where there are deep fissures of the skin. In the other types of impetigo he finds an ointment of red lead, red or white precipitate, boric acid and zinc oxide to be the best. These ointments to be applied twice daily and thickly, to prevent autoinoculation. In some cases he has also tried penciling with methylene-azure or a solution of carbol-fuchsin, with favorable results.

(*Ibidem*, Feb. 15, 1915, vii, No. 3.)

CLINICAL NOTES ON SOME DERMO-SYPHILOGRAPHIC CONDITIONS. JUAN DE AZUA, p. 81.

The author discusses:

1. A case of lupus in non-ulcerating, large plaques, of the right cheek; rapid cure by means of Finsen phototherapy.
2. Lupus erythematosus, generalized, symmetrical and teleangiectatic, of the neck.
3. Papilloma of the scalp, cured by radium.
4. Acute adenitis of the submaxillary region. Absolute disappearance after ten injections of polyvalent staphylococcus vaccine.
5. Technique of neosalvarsan injections.

JAPANISCHE ZEITSCHRIFT FUR DERMATOLOGIE UND UROLOGIE.

(July, 1914, xiv, No. 7.)

Abstracted by M. F. LAUTMAN, M.D.

CUTIS MARMORATA. K. MITSUDA, p. 579.

550 REVIEW OF DERMATOLOGY AND SYPHILIS

EYE LESIONS IN LEPRA. T. SUGAI AND M. MASAKAI, p. 592.

ROENTGEN THERAPY IN DERMATOLOGY AND UROLOGY. S. DOHI,
p. 621.

CURES AND RECURRENCES IN SYPHILIS. K. ASAHII AND G. MURASAWA,
p. 627.

(*Ibidem*, August, 1914, xiv, No. 8.)

THE STUDY OF TRICHOPHYTOSIS IN JAPAN. (*Part 2.*) F. KUSIMOKI,
p. 687.

The author, in a study of 65 cases of head trichophytosis, found two different fungi: *T. violaceum* and *T. acuminatum*, both belonging to the endothrix group. The organism was obtained in pure culture in 48 cases, of which 14 cases showed *T. acuminatum* and 34 cases, *T. violaceum*. The disease is epidemic in Japan and is most frequently encountered in public schools and among the poor, occurring most commonly in boys.

On the hairless portions of the body, the disease appeared as trichophytosis vesiculosa superficialis and also involved the palms, soles and nails. While the organisms which were isolated from these lesions correspond very closely to *T. violaceum* (Sabouraud), body and scalp trichophytosis, curiously enough, never occurred in the same patient.

Ringworm of the nails is not uncommon in Japan. In the author's 6 cases, 3 were associated with eczema marginatum and 3 with trichophytosis palmaris et plantaris. Four cases yielded the *T. acuminatum* in pure culture. Eczema marginatum is very common in Japan and coincides with the type described by Hebra. However, two types of fungi have been isolated from the lesions. The first is the *Epidermophyton inguinale* of Sabouraud, while the second differs from the former in that it can be transmitted to guinea pigs and rabbits and that it frequently invades the nails, resembling, in this respect, the *T. acuminatum*. In a series of 14 cases of eczema marginatum, the *T. acuminatum* was isolated in 8, and the *Epidermophyton inguinale* in 2 cases.

(*Ibidem*, December, 1913, xiii, No. 12.)

A CASE OF IODODERMA TUBERO-ULCEROSUM WITH SPECIAL
REFERENCE TO ITS PATHOGENESIS. IJIRI, p. 1055.

(*Ibidem*, September, 1914, xiv, No. 9.)

A CASE OF FOLLICULITIS DECALVANS PROFUNDA. TOYAMA AND
USUBA, p. 825.

The authors report a case of folliculitis decalvans profunda in a woman, aged thirty years. The disease was of eight years' duration and in addition to the scalp, it involved the adjacent skin on the face and neck, left hand and right knee. Biopsies performed on the atrophic and inflammatory lesions showed the usual changes. The hairs could be withdrawn very readily, but showed no changes. Cultures from the broken down lesions yielded the *Staphylococcus aureus*.

SIX CASES OF EPIDERMOLYSIS BULLOSA HEREDITARIA. MURA-
SAWA, p. 837.

SARCOMATOSIS CUTIS. DOHI, p. 854.

MULTIPLE HARD CHANCRES. OKOSHI, p. 859.

RECURRENCES IN SYPHILIS. BABA, p. 867.

A CASE OF MULTIPLE NODULAR XANTHOMATA ASSOCIATED WITH ACROMEGALY. SAHURANE AND KISHI, p. 875.

CONCERNING HAIR DYES. TAKAOKA, p. 880.

(*Ibidem*, October, 1914, xiv, No. 10.)

SUPER- AND REINFECTION IN SYPHILIS. MURASAWA, p. 907.

COMPLICATIONS OF NEOSALVARSAN. MURASAWA, p. 917.

CURE AND RECURRENCES IN SYPHILIS. INOUE AND HAMANISHI, p. 932.

(*Ibidem*, November, 1914, xiv, No. 11.)

PRIMARY LEPROSY IN THE NEW BORN. NAKAYO, p. 1026.

The writer reports the case of a three months' old child whose parents were lepers. Sections of the skin showed typical leprosy infiltrations and lepra bacilli. When the child was born, the writer looked for lepra bacilli in the umbilical and placental blood, with negative results.

A CASE OF CREEPING DISEASE. SAKAI, p. 1035.

Sakai reports the second instance of this eruption recorded in Japan. It occurred in a fisherman, 32 years old, who showed the typical red line, running transversely across his abdomen, from the umbilicus. The removal of the advancing end of the line interrupted the course of the disease, but the microscope failed to reveal any larvæ in the section.

(*Ibidem*, December, 1914, xiv, No. 12.)

PROGRESS OF ROENTGEN THERAPY IN DERMATOLOGY. SATO, OTU AND MITO, p. 1077.

CHLOROFORM ANÆSTHESIA FOR THE INTRAVENOUS ADMINISTRATION OF SALVARSAN IN CHILDREN. FUYITANI, p. 1096.

THERAPEUTIC GAZETTE.

(Jan. 15, 1915, xxxi, No. 1.)

Abstracted by CHARLES T. SHARPE, M.D.

STATUS OF BACTERINS AND TUBERCULINS; PROPHYLACTICALLY, DIAGNOSTICALLY AND THERAPEUTICALLY. B. A. THOMAS, p. 1.

The author submits a good résumé of the subject outlined in the title of this article and points out the importance of coöperation with the bacteriologist, if the best results are to be obtained. The indications, contraindications and causes of failure are reviewed. Among the last are: 1. Utilization of the improper bac-

terium, whether autogenous or heterogenous. 2. Routine employment of stock instead of autogenous bacterins. 3. Ignorance as to the administration, either of size of dose or intervals of inoculation. 4. Disregard of commonly associated conditions. How these mistakes may be avoided is pointed out, and other interesting phases of the subject are discussed.

The subjects of especial interest to the dermatologist are tuberculin therapy, acne, furunculosis, carbunculus, abscesses, ulcers, impetigo, sycosis, actinomycosis and glanders.

ARCHIVES OF DIAGNOSIS.

(Jan. 15, 1915, viii, No. 1.)

Abstracted by CHARLES T. SHARPE, M.D.

THE DIFFERENTIAL DIAGNOSIS BETWEEN ACRODERMATITIS CHRONICA ATROPHICANS AND DIFFUSE IDIOPATHIC ATROPHY OF THE SKIN. FRED WISE, p. 33.

In this paper, Wise makes a plea for the differentiation, on purely clinical grounds, of the two forms of cutaneous atrophy mentioned in the title. He compares the clinical features of the two dermatoses in parallel columns and points out the chief differences between the two as follows:

In acrodermatitis chronica atrophicans there is an atrophy preceded by inflammation, oedema and infiltration; the disease begins on the backs of the hands and feet, the fingers and toes usually remaining free; the disease advances centripetally, by the gradual extension of the active borders of the process; the areas of predilection are the upper and lower extremities; usually there is an "immune" triangular area below Poupart's ligament; the process usually comes to a standstill at the crest of the ilium; there is no configuration of the skin folds, following the lines of cleavage; there may be present a characteristic "ulnar band."

In atrophia cutis idiopathica, there are no clinical manifestations of inflammation and infiltration preceding the atrophy; the process may begin on any part of the body; large areas of atrophy are usually formed by the coalescence of previously scattered foci of the disease; there are no areas of predilection; the process usually advances over the trunk and back; configuration of the skin folds usually occurs on the buttocks, breasts and back; the "ulnar band" is not characteristic.

In conclusion, the author states that the diagnosis depends upon the sum total of the various clinical features encountered in the two forms of cutaneous atrophy.

CANADIAN PRACTITIONER AND REVIEW.

(November, 1914, xxxix, No. 11.)

Abstracted by CHARLES T. SHARPE, M.D.

THE JARISCH-HERXHEIMER REACTION. K. M. BENOIST SIMON, p. 655.

This article is of very great importance to the syphilologist. The author reviews the various theories which have been advanced to account for the untoward effects of the injection of antisypilitic remedies. He points out that all active antisypilitics may give rise to the reaction, and that the reaction may be as

varied as are the forms of syphilis, "be they cutaneous, visceral or cerebral." They are more common in old cases, treated incompletely, negligently, by means of large doses. During the second period, the symptoms may be exaggerated and a general rash may make its reappearance. Synovitis, arthritis, deep seated pains, headache and last, but not least, fever and meningitis may appear.

To avoid the reaction, first seek carefully the dangerous localizations of the disease, apart from those apparent by accurate examination. By means of lumbar puncture it is possible to diagnose a latent meningitis, waiting to give trouble with the first injection. "Safety first" dictates giving a small dose, say 0.2 gm. of salvarsan for an adult, and watch the case. Observe the temperature, examine the cerebrospinal fluid, then increase the salvarsan gradually.

The author reports a case of gumma in the throat, in a patient in whom, after one injection of salvarsan, œdema of the glottis developed, and who died.

BOOK REVIEWS.

HANDBOOK OF MEDICAL ENTOMOLOGY, by WM. A. RILEY, PH.D. AND O. A. JOHANSEN, PH.D. *Comstock Publishing Co., Ithaca, N. Y., 1915;* 348 pages, \$2.00.

This work, coming from an authoritative source, is a unique and valuable addition to the literature of an important field of medical advance. It is, moreover, of special interest to the dermatologist on account of the frequent involvement of the skin in the attacks of parasitic and disease-transmitting pests. The authors have collected and systematized a truly remarkable body of significant information on the borderland between two highly special fields, without falling into the error of making the discussion of medical aspects too replete with entomological technicalities, for comprehension by physicians.

The authors discuss the medical bearings of their subject with unusual comprehension, free from the naïveté that sometimes creeps into expositions in dual fields of scientific advance. The Arthropoda are considered from every aspect that their relation to disease can suggest—i.e., as directly poisonous, as parasites, as simple carriers of disease, as direct inoculator, as the hosts of pathogenic bacteria and protozoa, etc.

Practical directions for disposing of various types of insect pests are given. There is a comprehensive and valuable bibliography, thoroughly up-to-date.

U. J. W.

CANCER, ITS CAUSE AND TREATMENT. By L. DUNCAN BULKLEY, A.M., M.D., Senior Physician, New York Skin and Cancer Hospital. Cloth. Price, \$1.50. Pages 230. *Paul B. Hoeber, New York, 1915.*

This monograph is another example of Dr. Bulkley's well-known views of the effect of diet upon various skin diseases.

The book is very cleverly written, but the author's arguments and conclusions regarding the effect of diet in causing cancer are not very convincing.

A careful study of the reported cases does not show that any of them had been cured by attention to the diet, for some were treated surgically, others were subjected to the X-ray, and others were still under observation when the book was written.

Anyone seeking advice regarding the treatment and cause of cancer will not be able to get much help from this work.

J. M. W.

CORRESPONDENCE.

8a Manchester Square, W.
27th April, 1915.

To the Editor:

In your April issue (p. 313) Dr. R. A. McDonnell reports the disappearance of keratoses, due to chronic X-ray dermatitis, after direct exposure of the lesions to the rays. I can confirm his observation, as I obtained the same result by applying the rays to keratoses on the hands of one of the X-ray operators at the London Hospital. The patient was shown at the Royal Society of Medicine, and the case was reported in the *British Journal of Dermatology*, 1908, xx, p. 140.

I do not, however, recommend this measure as a routine treatment, as its remote effects may be highly dangerous.

In Dr. McDonnell's case twenty-one exposures were given, and I think he would be well advised to avoid repeating the treatment.

Truly yours,

JAMES H. SEQUEIRA.

NEWS ITEM.

DR. HOWARD FOX has been appointed Clinical Professor of Dermatology at the New York Polyclinic Medical School. He has also been placed in charge of the newly created Department of Dermatology and Syphilis at the Harlem Hospital and Dispensary.

NOTICE.

We have been surprised to learn that there are many dermatologists who entertain the erroneous opinion that only members of the American Dermatological Association can publish articles in *THE JOURNAL*. We welcome communications on subjects interesting to dermatologists from any reputable physician. The acceptance or rejection of a contribution rests entirely with the Editor.

THE JOURNAL OF CUTANEOUS DISEASES

VOL. XXXIII

AUGUST, 1915

NO. 8

THIRTY-NINTH ANNUAL MEETING OF THE AMERICAN DERMATOLOGICAL ASSOCIATION.

(New York City, May 13-15, 1915.)

PRESIDENTIAL ADDRESS.

BY SIGMUND POLLITZER, M.D., NEW YORK.

IN opening this, the Thirty-ninth Annual Meeting of the American Dermatological Association, permit me to express my sincere appreciation of the great honor which you have done me in choosing me as the "chief servant" of the Association for this year.

The program before you indicates a meeting of great interest, and on behalf of the New York members of the Association I can promise the presentation of a group of cases the equal of which in number, rarity and clinical interest it would be hard to duplicate in any city in the world.

When I was made a member of this Association, in the year 1896, there were thirty-seven names on the register of its active members. The Association, founded just twenty years before, consisted originally of twenty-nine members. In the twenty years succeeding its foundation, thirty-seven new members had been elected, but so many of these and of the original members had left the Association, through death or resignation, that in 1896 the total membership was greater by only eight than the number of

its charter members had been. During the dozen years following my election, new members were added at an average rate of three each year, but since 1910 the annual increment of members has been much greater, and in the five years from 1910 to 1914 inclusive, twenty-nine dermatologists have been elected to membership, so that to-day, with the deductions for deaths, resignations and forfeitures of membership, there are sixty-seven active members on our roll. At the present time, our constitution limits the number of members to seventy-five.

You will remember that at our meeting last year the question of adding to our list of active members was the subject of an animated discussion, in which divergent views were expressed. On the one hand, it was held that membership in our body should be restricted and should be awarded only to dermatologists of recognized achievements; in a sense, as a reward of merit. On the other hand, it was maintained that membership in our Association should be open to every physician who was especially interested in dermatology and whose practice was limited to that field of medicine.

These divergent views led me to inquire into the rules governing the admission to membership in the various local dermatological societies in different cities throughout the country. Of course, only a few of our larger cities can have a sufficient number of dermatologists to admit of the possibility of a local dermatological society. We find such dermatological bodies in Boston, Philadelphia, Chicago and New York. If the dermatologists of St. Louis, San Francisco or other larger cities meet at stated intervals to discuss cases or subjects of interest, there is no published record of such meetings. In Boston, seven or eight dermatologists have constituted themselves a dermatological club which may be taken as the type of a small, exclusive society. In Chicago, the Dermatological Society consists of about twenty-four members, all of whom are engaged in practicing dermatology as a specialty. Its members include some well known dermatologists from other cities, within a radius of six or eight hours' railway journey. Election to membership requires the affirmative vote of three-fourths of its members, and with this safeguard it is obvious that there are some dermatologists in Chicago who are not included among its members. My inquiries lead me to believe that the right of membership is administered in a fair and liberal spirit; the membership, however, is restricted.

The Philadelphia Dermatological Society may be taken as the type of a liberal medical body. Its membership is not limited. It includes many young dermatologists who still have their spurs to

win, and it includes also some physicians engaged in general practice who have only a secondary interest in dermatology. Its object is to increase the general interest in our specialty and to enlarge the experience of all its members.

In New York there are not less than three dermatological bodies. The oldest of these, the New York Dermatological Society, is limited to twenty members; for election, a three-fourths affirmative vote is required. All its members at the present time are engaged in special dermatological practice, but up to a few years ago many of its members did not limit their practice to this field, and some of them made no pretension to being dermatologists. Its members take the ground that it is a social organization.

The Manhattan Dermatological Society is constituted like the older New York Society. Its membership is also limited to twenty, and some of its members are also members of the New York Society. Both these societies have a social element connected with their monthly meetings: a collation follows the meetings, which are held at the residences of its members in rotation. Both of these societies have done in the past, and are still doing, useful work for their own members who profit by mutual contact and discussion. An obvious criticism that may be made against them is that, first, by limiting their membership to a definite number and paying regard to other factors than simply dermatological ability and personal character, they are doing both themselves and dermatological science an injustice; and, second, by excluding any dermatologist from membership they create, in the eyes of the medical public, a presumption of unfitness, either in ability or character, against the excluded member. No body of twenty men, in this city or elsewhere, is in justice entitled to call itself the Dermatological Society of its city, while there is perhaps an equal number of competent dermatologists whom those in the exercise of a self-assumed right exclude from its membership.

The third dermatological body in this city is represented by the Section of Dermatology and Syphilis of the New York Academy of Medicine. Any one of the twelve hundred members of the Academy may become a member of the Section, simply by signifying his wish to that effect. The monthly meetings are open to the general medical public, though only members of the Academy have the privilege of taking an active part in the proceedings. The Section meetings are thus an important factor in the dermatological education of the young dermatologists and of the physicians of this city in general. In this respect, the Academy Section stands alone

among the dermatological bodies of the country whose main purpose is the instruction of their own members.

London, Paris, Berlin, Vienna—all the great cities of Europe have a single dermatological society in whose discussions the leading dermatologists of these centres take part. It seems a pity that the dermatologists of the chief city of America have not been able to unite in a single body for mutual instruction and the advancement of our science.

The American Dermatological Association, for the first decades of its existence, seems to have been dominated by a spirit of exclusiveness, and there is still to-day a large element among its members which would like to see its membership limited to themselves and a few of their friends. The principle of *numerus clausus*—limited membership—in a scientific society is something so utterly without reason that I have racked my brains in the vain effort of finding a justification for it. The only explanation I can find for this peculiar phenomenon seems to me to lie in a natural human weakness, characteristic of a considerable class, to attempt to confer distinction on themselves by voting themselves better than, or at least different from, others, and to derive a certain gratification from arousing envy in the less fortunate. I should call this spirit un-American, if it were not just in our own country, more than in any other, that we see the spirit of snobbishness run riot in the multiplication of absurd exclusive societies, from the Royal Knights of this or that to the Honorable Descendants of King Canute or the Loyal Sons of Adam.

Gentlemen, this spirit of exclusiveness has no place in a scientific society. Our Association should open its doors freely to every dermatologist who desires to join it. The sole requisites for membership should be knowledge of dermatology and a high standard of honor. The Association owes a duty to the profession to hold high the banner of dermatological science. We cannot admit to membership the ignorant, nor can we consider for a moment the candidate whose character is flecked with the slightest suspicion of unworthiness. To assume that there are seventy-five dermatologists in America who fulfill these requirements, but not eighty or a hundred, or two hundred, is manifestly absurd. I favor the removal of any numerical limit to membership. The Association will not suffer from an increase in its membership if only we exercise due care in the selection of its members.

It is obvious that in the case of the younger and less well known

candidates, it is impossible that their character and attainments can be sufficiently known to many of our members. We have at present a Committee on Nomination to Membership. I would urge that this Committee be enlarged, and that its recommendations be followed as a matter of course. There should be no place for the exhibition of personal spite or personal favoritism in the selection of our members. A carefully chosen committee of seven members of the Association may safely be entrusted with the duty of selecting its new members from the names submitted to it, and no member should feel that he has the moral right to cast a secret ballot against the verdict of the Committee, without at least expressing his convictions and giving his reasons in open meeting.

The past year has not been marked by any notable advances in our science. The terrible state of the European world has put a stop to all progress abroad, except in the art and science of killing and maiming human beings. In this country, the war has been to many of us an obsession which has driven all thoughts of scientific work from our minds, and the effort to maintain a neutral attitude without grievous injury to our intellects has been too severe a strain to leave energy enough for scientific work.

The new field of serum therapy has engaged the attention of a number of our dermatologists during the past year, and there are several papers on our program dealing with this subject. In the absence of a scientific foundation for this form of treatment, I should advise an expectant attitude, flavored with a large degree of scepticism. The path of medicine is strewn with the shards of cast-off methods of treatment that once roused the enthusiasm of the profession.

It seems to me that the most important practical work for the dermatologists of America at the present time is to be found in the education of the general medical public in the enormous benefits to humanity to be derived from the proper employment of the recently acquired aids to diagnosis and treatment of syphilis. It is only within the lifetime of some of our own members that we have learned that syphilis produces diseases of other organs than the bones and the skin. The first anatomical description of visceral syphilis—syphilis of the liver—dates from the year 1847. It is only within the last decade that we seem to have awakened to a realization of the import of this most frightful, as it is one of the most common, of all diseases. Probably not less than 10 per cent. of the inhabitants of the civilized globe have been infected with syphilis. When we consider that the vast majority of these present

evidence of more or less grave disease of the heart and aorta, that a fair proportion develop tabes or paresis, that no single organ or tissue of the body is safe from the blasting effects of the spirochæte, we begin to realize that the control of syphilis presents one of the most important problems with which we have to deal.

The medical profession is not alive to its obligations and its opportunities when confronted with a case of this disease, and our hospital authorities have not brought the institutions under their care up to the standards demanded by the advances in our knowledge.

In this city, an association composed of representatives of all the out-patient clinics was formed two years ago under the auspices of the Committee on Public Health of the New York Academy of Medicine. This Association formulated certain standards for a syphilis clinic. It demanded that all cases of syphilis, whatever the nature of the existing lesion, should be treated in one department; that this department should be either a special department of syphilis, or the department of dermatology; that every such department should be equipped with facilities for early and definite diagnosis, and that salvarsan should be given in the dispensaries, and given free to those unable to pay for it. The reasons for these requirements seem obvious. It is a matter of common knowledge that a syphilitic afflicted with a lesion of the eye, the throat, the bones, etc., applies for relief of his symptoms to the eye, the throat, or the surgical department of the dispensary, and that he may receive there a course of treatment sufficient to relieve him of the symptom for which he sought relief. But in none of these departments is his constitutional disease treated with the vigor and persistence necessary to cure him of his disease. Such a course of treatment may require years of perseverance, and the ophthalmologist, the laryngologist, or the surgeon is not interested in the case when the patient has been relieved of his local lesion. The patient therefore is discharged when his eye, throat or bone lesion is healed, and he may suppose himself well until some new lesion brings him back for treatment in another department, or until, as a paralytic or a blind tabetic, he becomes a charge on the community. The economic waste resulting from this inadequate method of treatment is enormous. It is in a single department only that systematic treatment can be carried out. So long as the dispensary treats symptoms only, the treatment will necessarily vary with the intelligence and the prejudices of the various physicians by whom the patient is successively treated. The unfortunate syphilitic in an early stage of tabes, with a barely

perceptible optic atrophy, whose treatment consists in the administration of some pills prescribed by the physician into whose hands his eye symptoms have directed him, is being robbed of a chance to preserve his dearest possessions, his sight and his health, and is simply swindled by the fine-fronted institution which has invited his confidence.

The asymptomatic syphilitic is of no medical interest to any one but the syphilidologist, and his disease will be regarded from the larger point of view of a systemic infection only by the specialist whose aim is the cure of the disease rather than the relief of a symptom. By tradition and universal practice, the dermatologist is the syphilidologist. The grounds for this practice are obvious. The lesions of the skin are the most common and striking manifestations of the disease; they may recur at frequent intervals throughout its protracted course; they are the symptoms which most frequently bring the patient to the dispensary. The literature of syphilis is found in the text-books and journals of dermatology; the great syphilidographers of the world are, and always have been, the dermatologists. Syphilis, therefore, properly belongs to the department of dermatology, unless, indeed, a special department of syphilis be maintained for the care of this class of patient.

That the dispensary should be equipped with proper means of diagnosis goes without saying. It is only recently that we have come to realize the fundamental importance of early diagnosis and immediate treatment of the most energetic character, and yet within a month I have seen three syphilitics with early secondary eruptions, who had consulted their physicians on first noticing the chancre, and had been told to wait until the rash appeared so as to make sure of the diagnosis. The surgeon who would say to his patient, "Your wound is probably infected with virulent organisms; if this is true, you will find in the course of a week that you will have swollen glands, fever, chills—in short, blood poisoning; I think you had better wait and see if I am right," would probably be regarded as a lunatic; yet physicians all over the world are constantly doing just this thing in regard to syphilis. The thousands of cases of syphilis treated in the primary stage before the great dissemination of spirochætæ throughout the system, that after nearly five years remain free from symptoms and are Wassermann-negative, demonstrate the necessity for energetic treatment at the earliest moment after infection. The dispensary should have a dark-field microscope in order to make a positive diagnosis of syphilis on the first appearance of the chancre; and the Wassermann test is an

imperative requirement both for diagnosis and as a control of the therapy.

The value of salvarsan is established beyond question. No dispensary that fails to make provision for administering salvarsan has a right to assume the responsibility of treating syphilis, and the duty of giving salvarsan free to the poor who are unable to defray the cost of the drug is as obvious as the duty of prescribing any other medicine or of furnishing splints and surgical dressings to those unable to pay. That is what these institutions are for.

Now, when we inquire into the practice with regard to syphilis and the equipment of our institutions that treat the disease, we find conditions that are lamentable. I speak for this great city of New York. What the conditions are in the dispensaries of other cities throughout the country, I do not know and should be glad to hear. Of the fifty-two institutions belonging to the associated out-patient clinics, I venture to say there is not one that in all respects fulfills the requirements laid down by the Association. Four or five of them, possibly, come near to realizing the standard, but even in these there is something lacking; either there is no dark-field microscope, or there is no rule requiring the treatment of all cases of syphilis in one department, or salvarsan is given only to those who are able to pay for it. In the great majority of institutions treating syphilis, little if any use is made of the great advances in our knowledge of the disease in the past decade.

Gentlemen, this is a matter of which this Association may well take cognizance. I would recommend that speaking with the authority of a representative body of experts, dwelling on the great prevalence of syphilis, on its terrible effects on the individual and the family, and its economic cost to the community, we formulate in unmistakable terms our opinion of the duty of our public institutions in regard to providing proper facilities for the diagnosis and treatment of the disease.

If our voice can aid in bringing about an improvement in the treatment of this universal scourge, we shall have accomplished something worthy of the attention of this distinguished body. Gentlemen, I thank you for your attention.

THE HISTOPATHOLOGY OF MYCOSIS FUNGOIDES.*

By FRANK CROZER KNOWLES, M.D., Philadelphia.

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AFTER consulting many excellent papers dealing with all phases of mycosis fungoides, the writer has decided to limit the scope of the present article to the histopathological aspect, including its differentiation and resemblances to other cutaneous diseases.

A considerable number of sections have been examined from the various stages of this affection, and, through the courtesy of Dr. M. B. Hartzell, the opportunity has been afforded of studying specimens from six other cases of mycosis fungoides, several of which I have observed clinically. The histological appearances from these latter cases are analogous to mine in every detail, and therefore the present microscopic description, although taken from but the one case, could aptly be applied to the other six.

There is a very great divergence in the microscopical picture given to the disease, but this is easily explained if the multiformity of lesions is only considered. The comparatively large number of articles written on the pathological aspect of the subject give quite uniform findings, excepting as to the nomenclature of the various cells present and their derivation.

Mycosis fungoides apparently starts with a dilatation of the subpapillary blood vessels and a cellular infiltration surrounding these channels. Shortly afterward the cellular deposits extend upward into the papillæ and laterally in the upper corium. The blood vessels in the papillæ and in all portions of the corium become dilated and are filled with blood. Practically all of the cellular infiltration, in the early stage of the affection, is observed surrounding and radiating from the blood vessels. The collagen and elastic fibres are normal. All of the epidermal layers are normal, with the possible exception of a slight intercellular œdema.

As the premycotic stage becomes somewhat further advanced, the cellular deposit is observed to be more abundant, not only surrounding the subpapillary plexus of vessels, but accompanying the deeper corium vessels and radiating into the papillæ as well; some of the cells are found surrounding the sweat coils and the

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hair follicles. There is a distinct tendency for the cells not only to be arranged in masses, but in a linear manner, both parallel to the skin surface in the subpapillary portion and with the rete pegs; this phenomenon seems to be considerably determined by the direction of the blood channels. The cellular infiltration in the corium later tends to fill all the subpapillary portion of the corium: the papillæ being filled with the new cells. The interpapillary spaces have meantime been narrowed by the broadening of the rete pegs, and there is a tendency for the latter to be invaded, particularly in the lower portion, by the cellular masses, as the tumor stage is reached. The accumulation of cells is observed almost exclusively above the central portion of the corium, the cellular infiltration producing a distinct line of demarcation between this and the almost normal lower cutis. In a few sections, small pigmented areas are found in the upper corium. The collagen in the neighborhood of the cell masses stains in a much lighter shade than do the white fibre bundles, where there is an absence of or only a few cells.

In the early premycotic stage there is observed œdema of the epidermic cells, and because of the latter there is some elongation of the rete pegs. As the disease progresses this elongation of the interpapillary processes increases tremendously; the intercellular and cellular œdema increases markedly; the spaces between the cells become very noticeable; clear spaces develop about the nuclei; the nuclei become of every conceivable shape. The rete pegs are now not only elongated, but also broadened, and a few are branching; the increase in size is seen to be due not only to œdema, but also to a large increase in the number of cells (acanthosis). A large number of mitotic figures can be observed in almost all parts of the prickle-cell layer, but chiefly in the lower and basal portions. In certain portions, chiefly the upper part of the rete, the protoplasm of the cells tend to break up, and vesicle formation may be observed just beneath the horny layer or slightly lower down. In those lesions covered by a scale, the horny layer is thickened and imperfect cornification is present, as exemplified by the persistence of nuclei in the most superficial horn cells (parakeratosis).

In the well-developed tumor stage, the cell growth continues to increase in the corium, in the beginning by mitoses and later both by karyokinesis and direct cell division, spreading upward, downward, and also laterally. The entire corium may eventually be occupied by the cellular growth, depending naturally upon the size and the stage of the tumor formation. The lymph spaces

which have been somewhat dilated even in the earlier stages, later become markedly enlarged. The blood vessels, although dilated, are only partially filled with blood. The cell masses are distributed even throughout the corium, the greater amount of infiltration is still, however, usually observed in the upper portions, excepting in the large growths.

The Malpighian layer shows such an œdematous condition that the cellular outlines in a great many instances cannot be distinguished; a considerable number of nuclear spaces are occupied by mere dots, or a considerable number of these take the one shade without any differentiation of protoplasm, granules, nuclei or nucleoli. Free granules are found in groups, not only in the corium, but also in the epidermis. The elongated and broadened rete pegs now tend to run together, forming a more or less continuous thickened layer with practically no papillary invaginations excepting where here and there a thin prickle-cell layer projection is observed below this confluent Malpighian layer. These widened and continuous rete pegs, as the tumor stage advances, start to become reduced in thickness by the pressure of the masses of cells which solidly fill the subpapillary portion of the corium. As this pressure increases, all of the epidermic layers become compressed and thinner, particularly the rete which had previously been so markedly hypertrophied. As the tumors enlarge still further, the epidermis becomes so decreased in thickness that eventually but one or two rows of rete cells remain. These may be removed by pressure of the cellular infiltration from beneath and the horny layer, which alone covers the growth in the ulcerative tumors, breaks and the epidermic covering is destroyed.

In the early stages of the disease, under high magnification, the dilated blood vessels are found to be filled with red blood corpuscles, and a few large and small lymphocytes and polymorphonuclear leucocytes. The endothelial coat of the blood vessels is thickened. Immediately surrounding these channels are found spindle-shaped and round cells, of varying size, probably connective tissue cells; a few polymorphonuclear leucocytes; a large number of round cells with deeply staining nuclei and very little protoplasm, some slightly larger than a red blood corpuscle, evidently lymphoid in type; fairly numerous cells with an eccentric nucleus and granular protoplasm (plasma cells), and a few mast cells. These cells are found in a fine fibrous reticulum.

In the tumor stage of the disease, there is a very much larger number of cells conforming to the lymphoid type; there is almost

a total absence of polymorphonuclear leucocytes; there are a fair number of cells corresponding to the connective-tissue variety; a few mast cells; some plasma cells, but not as many as in the earlier stage of the disease; two or three giant cells, with six to eight nuclei, and of a very indistinct outline; a considerable number of granules of varying size, from the breaking down of cellular protoplasm. A great many of the cells take the stain poorly, which is noticeably different from characteristics of those in the earlier stages of the disease. The fine fibrous reticulum is either to a considerable extent absent, or does not react to the various stains employed. The lymphatic spaces are widely dilated. The blood vessels, although enlarged, contain for the most part very little or no blood.

Strobel and Hazen, as well as Leredde, have found pathological changes in the apparently unaffected skin. Payne pointed out that the granular debris in the later stages of the disease might, if great care was not used in fixing and staining, be mistaken for organisms. Unna mentions the great susceptibility that the tissues of mycosis fungoides have to secondary infection, particularly in the late tumor stage, when the skin is ulcerated. Jamieson and Huie, and also Herxheimer and Hübner, have made interesting studies of the skin both before and after X-ray treatment, showing the disappearance of the pathological cellular elements, and the rejuvenation of the fibrous and elastic tissues. According to Jamieson and Huie, the hair follicles have provided one of the chief lines of encroachment, and although remnants of hair bulbs persist in the lower corium, not one hair was found. Galloway and MacLeod found that the collagen was neither increased nor destroyed in the early stages of the disease, but in later phases it becomes basophilic in reaction and tends to disintegrate.

As the diagnosis of mycosis fungoides, from the histological point of view, largely hinges upon the character of the cells that are present, a description of the cellular elements, as recorded by a few writers, will prove of value. According to Galloway and MacLeod, the great majority of the infiltrating cells seems to be derived from the connective tissue cells and show four main varieties:

1. Large oval cells containing a granular protoplasm, occasionally a well-marked protoplasmic network, and usually a single nucleus, which does not stain throughout more deeply than the rest of the cell. The nucleus is evident by its more deeply stained nuclear membrane, and by showing one or more bodies like nucleoli, which are also more darkly colored.

2. Characteristic mast cells, with their basophilic granules, grouped especially around the blood vessels.

3. Cells with a single nucleus and a darkly stained border of a granular protoplasm, corresponding in appearance with plasma cells.

4. Numerous small cells slightly larger than leucocytes containing nuclei similar to those of the large cells first described.

Jamieson and Huie found cells exhibiting a great variety of sizes and shapes, set in a very delicate intercellular network. Two kinds were prominently noticeable—cells of the fixed connective tissue cell type, the structural elements of the granuloma, and round cells, in no way to be differentiated from lymphocytes. Jamieson and Leith regard the fixed connective tissue cell as the “characteristic cell” of the new growth. Herxheimer and Hübner came to the conclusion, after studying ten cases of this affection, that the characteristic cell present is a small mononuclear “mycosic cell” which the authors believe to be distinguished from lymphocytes, and is characteristic of the disease. They also found plasma cells and mast cells, but these were sparsely distributed.

Strobel and Hazen believe the typical cell of mycosis fungoides is round or oval, from 8 to 12 microns in diameter, and contains an eccentric nucleus that was often rich in mitotic figures. The cell was typically lymphoid and could not be distinguished from those seen in the spleen and lymph glands. They found all stages of these cells apparently grading up to the typical plasma cell, and from the plasma cell up to the epitheloid cell.

Mycosis fungoides has to be particularly differentiated histologically from the granulomata of tuberculosis and syphilis, the sarcomata, and the leukæmic and pseudoleukæmic growths of the cutis.

In the syphilitic granuloma the cell proliferation is less multiform, plasma cells are more numerous than in mycosis fungoides, and the greatest cellular infiltration is observed around the very widely dilated blood vessels. There is an actual increase of fibrous tissue in syphilis. In the late stages of mycosis fungoides, according to Galloway and MacLeod, the crenation and fragmentation of the cells are important points in differentiating a syphilitic process.

The tuberculous granuloma consists to a large extent of plasma cells, and daughter plasma cells (Galloway and MacLeod), and is even less multiform in the varieties of cells than is syphilis. Giant cells are present with central caseous degeneration, which are never observed in mycosis fungoides. The collagenous bundles disappear

early in the pathological process while fibrous tissue disintegrates and disappears at a very late period in mycosis fungoides.

The various sarcomata are still confused with mycosis fungoides. Round celled sarcoma is distinguished from the latter disease by the regularity in shape and size of the round mesoblastic cells, by the fact that the growth begins in the reticular layer of the epidermis, and remains limited to it, excepting when ulceration occurs. Johnston emphasizes the presence of a fine fibrillar network between the cells. The epidermis, unless the sarcoma breaks down, is practically normal. In the spindle celled sarcoma the cells are both of a spindle and round shape. The growth, however, is found deep in the corium and the epidermis is normal, excepting ulceration occurs. Giant celled sarcoma, which involves the skin like a deep abscess, and only by continuity, could scarcely be mistaken, histologically, for mycosis fungoides.

Leukæmia and pseudoleukæmia cutis, although the subject is gradually being elucidated, still offer a rather obscure and, in many instances, a far from clear, histological picture. According to Johnston, the leukæmic and pseudoleukæmic growths begin always in the deep portions of the skin, commonly at the junction of the reticular layer and the subcutaneous tissue, in the form of perivascular sheaths of round cells. These cells have the usual appearance of lymphocytes. Nekam states that in leukæmia cutis there is a great œdema of the vessels of the cutis, an active diapedesis from them, and an infiltration of the neighboring cutis with leucocytes. The infiltration follows the lymph spaces, radiates along the vessels, and ascends to the surface of the skin with hair follicles and sweat ducts. He mentions that it is purely a leucocytic infiltration, and there is no marked fixed-cell proliferation, mitosis, or imperfect giant cell formation, such as are observed in mycosis fungoides.

Leredde believes that the skin sections in leukæmia may have the histological picture such as is found in mycosis fungoides; he found, however, only lymphocytes present, as have also Pardee and Zeit, although the latter described their case as mycosis fungoides. One finds, however, according to the former writer, no plasma cells, no migratory cells, or spindle cells, so that the infiltration consists of the one cellular element; only mast cells and branching pigment cells are associated in the classical picture. Seelig writes of a case of acute leukæmia with infiltration in the fat tissues consisting of lymphocytes and large mononuclear cells held together by a tender connective tissue capsule. Wende states, in "leukæmic lesions of

PLATE XXIX.—To illustrate article on "The Histopathology of Mycosis Fungoides," by FRANK CROZER KNOWLES, M.D.



Fig. 1.

Slight elongation of the rete pegs. Cellular masses in the papillary and sub-papillary portions of the corium almost entirely in the neighborhood of the widely dilated blood vessels; the latter filled with blood. Premycotic stage.



Fig. 2.

Marked acanthosis. Thickening of the horny layer. Imperfect cornification of the horn cells, nuclei being present (parakeratosis). Cellular infiltration limited to the upper corium, the papillary and subpapillary portions and papillae. Marked œdema of the prickle cell layer. Note the multiformity in the shape of the nuclei in the rete Malpighii. Beginning vesicle formation. Early tumor stage with a considerable amount of scale on the surface.



Fig. 3.

Later tumor stage. The entire upper and a considerable amount of the lower corium is filled with the cellular infiltration. Note the one or two branching rete pegs; the flattening of the other portions of prickle cell layer; the difference in staining of the cellular elements; and the mitoses in the rete layer, particularly in the basal portion.

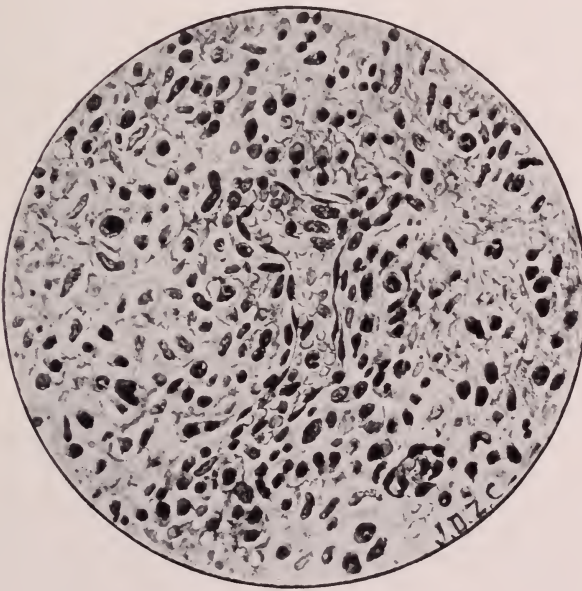


Fig. 4.

The cellular elements in the premycotic stage under higher magnification. Note the widely dilated blood vessel filled with red blood cells, polymorphonuclear leucocytes and lymphocytes. The spindle-shaped and round cells, of varying size, probably connective tissue cells, a few polymorphonuclear leucocytes, lymphoid cells, plasma cells, and a few mast cells are also noticeable. Note the fibrous structure.

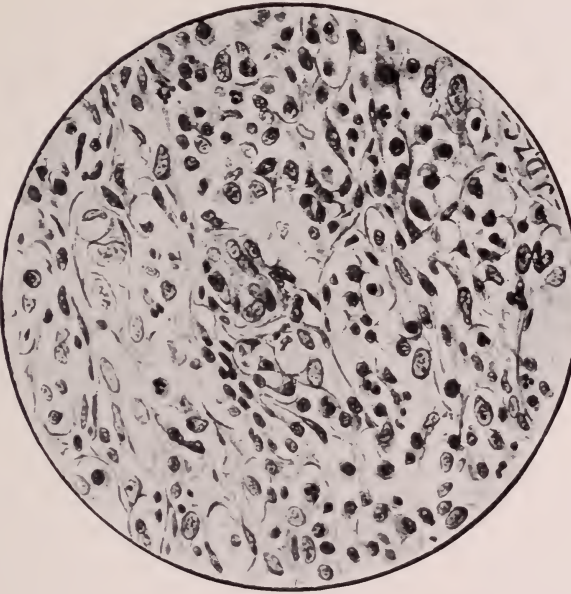


Fig. 5.

Cells from the tumor stage. Numerous cells of the lymphoid type, a fair number of cells corresponding to the connective-tissue variety, some plasma cells, but not as many as in the premycotic stage, an indistinct giant cell, granules from the breaking down of cells are present. Widely dilated lymph spaces. Almost total absence of fibrous structure.

the skin," that the tumors were entirely composed of lymphoid cells and no mitoses were seen.

Noteworthy is the statement of such writers as Pinkus, Nekam, Nicolau and Oertel, that mitosis is absent in leukæmia cutis. According to Paltauf, in leukæmia and pseudoleukæmia we have an absence of plasma cells which are noticeably present in the earlier stages, and, to a lesser degree, in the tumors of mycosis fungoides.

Ehrlich and Pinkus were the first to show the pathological relationship of leukæmia and pseudoleukæmia. Arndt states that the pathological picture is absolutely typical, and shows a pure lymphocytic infiltration of the skin and subcutaneous tissue, stopping with a very sharp line just beneath the papillary layer. The epithelium, normal or flattened, is always separated from the tumor-like infiltration by a narrow, somewhat œdematous zone.

Rolleston and Fox found, in a case of myeloid leukæmia, that the cellular infiltration was located in the middle and lower corium, and not in the upper portion. The infiltration consisted of lymphocytes and polymorphonuclear leucocytes, which were chiefly around the blood vessels and appeared to have been exuded from them rather than produced *in loco*.

Universal exfoliative erythrodermia observed in the course of lymphadenosis by Elsenberg, Peter, Wassermann, and Nicolau (quoted by Arndt), is characterized by histological changes consisting of a continuous, diffuse, or more or less circumscribed, infiltration of the upper layers of the derma, the papillæ, and the sub-papillary portion of the corium, the blood vessels of which are dilated. The cellular infiltration consists of lymphocytes, proliferated connective tissue cells, mast cells and pigment cells, but an absence of plasma cells. Arndt describes a rare condition, which he calls lymphadenotic erythrodermia (diffuse lymphadenosis of the skin). Histologically, the infiltration is purely lymphocytic, very monomorphous, and is found in the middle and lower derma. Excepting for the dilated blood vessels and œdema of the papillary portions of the corium, these areas are normal.

CONCLUSIONS.

Mycosis fungoides offers a clear histological picture, even in the earlier stages.

The characteristic features consist in the great multiformity of cells, including plasma cells, numerous mitoses, the location of the cellular infiltration in the upper corium, the papillary and sub-papillary portions, and the papillæ, and marked changes in the epidermis.

Mycosis fungoides is distinguished from the syphilitic granuloma by less multiformity of cells, more plasma cells, and the greatest infiltration of the cellular elements surrounding the widely dilated blood vessels in the latter disease.

Mycosis fungoides is differentiated from the tuberculous granuloma by the lack of multiformity of the cellular infiltration, which is not located around the blood vessels, the large number of plasma cells, giant cells with central caseation, and the early disappearance of the collagenous bundles in the latter affection.

Mycosis fungoides is eliminated from sarcoma cutis by the regularity in size and shape of the cells, the presence of a fine fibrillar network between the cells, the fact that the growth begins in the reticular layer and remains limited to it unless ulceration occurs in the latter condition.

Mycosis fungoides is excluded from the various leukæmic and pseudoleukæmic growths of the skin by the finding of a pure lymphocytic infiltration of the corium and subcutaneous tissue, stopping with a very sharp line just beneath the papillary layer in the latter diseases. Most authorities agree as to the absence of mitoses, of plasma cells, and imperfect giant cell formation in leukæmia cutis.

The deduction is obvious, that as mycosis fungoides gives a distinct histological picture, the disease is a separate entity.

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DISCUSSION

DR. WHITE expressed surprise at one of the conclusions reached by the reader of the paper, i.e., the point made in the differential diagnosis between leukæmia and mycosis fungoides—that in leukæmia the infiltration never quite reached the epidermis. In his own cases, that was quite a feature in mycosis fungoides; no matter how deep or intense the infiltration, it never quite reached the epidermis. He further asked what became of the elastic fibres in the tumor stage of mycosis fungoides. They were wholly absent; and yet, after successful X-ray treatment, the microscope revealed them again in normal quantity.

DR. ENGMAN said that it was an interesting disease, for it represented a class which had caused a great difference of opinion; that is, the differentiation between the group that mycosis fungoides represented and some of the leukæmic and pseudo-leukæmic conditions. Mycosis fungoides was a distinct entity. He had had the privilege of studying eight cases of mycosis fungoides, which was quite a large number. They had not, as yet, been reported, but they had been carefully studied. He and Dr. Robert Davis reported the blood picture in six cases, he believed. In all cases of leukæmia, although they may begin in the skin, if the blood picture were studied frequently and over a long enough period of time, it would show changes of that disease; but this was quite different in mycosis fungoides, as it never gave the blood picture of any of the leukæmias, never a relative increase of lymphocytes, but always an increase of the polynuclears.

The speaker confessed ignorance as to just what mycosis fungoides was, but he said it stood out preëminently as a type of some infective process. The cutaneous picture could be divided into two groups: First, the essential lesion, which was due to something that had an affinity for the vascular and paravascular tissue of the cutis, and it was a cutaneous disease in that respect. The organism or the particular principle which caused mycosis fungoides had a specific affinity for the skin and did not attack other organs of the body; therefore he doubted very much the post mortem reports showing metastases. The latter were undoubtedly cases of leukæmia. The pathology and morphology of mycosis fungoides pointed to two symptoms which were produced by the granuloma itself. First, toxic symptoms produced by the breaking down of the granuloma ("fragmentation" of Unna) which was an especial element of the disease. The toxæmia thus produced caused the blood picture, a marked and characteristic alopecia of both eyebrows and about the sides of the head, pigmentation and possibly intense pruritus. These toxæmic symptoms, especially alopecia, could be increased by X-ray therapy, as this agent hurried the fragmentation of the infiltrating cells. This could also be accomplished with Coley's fluid, and in one case he feared that he had caused death sooner than it would have otherwise occurred, through the use of Coley's fluid, thereby rapidly breaking down the infiltrations, which event was followed by high temperature and chills. The constitutional symptoms of mycosis fungoides were thus a septicæmia and were no doubt produced by the breaking down and absorption of homologous split products and the split products from the organism.

DR. HAZEN, referring to the blood picture, said that there was a type of acute leukæmia in which there was very little or perhaps no increase in the total number of leucocytes, or even in the relative or total number of mononuclears. On the other hand, there were many cases of mycosis fungoides which showed a marked actual and relative increase in the number of large mononuclears. Such a case had been reported by Orton and Locke and others were referred to in the article published by Strobel and himself.

DR. ENGMAN said that in cases of skin diseases in which there was absorption of split products there was a large increase of the mononuclears at the expense of the polynuclear leucocytes.

LICHEN SCLEROSUS VULVÆ.

By DOUGLASS W. MONTGOMERY, M.D.,

AND

GEORGE D. CULVER, M.D., San Francisco.

LICHEN sclerosis is one of the rarer forms of the great disease lichen planus, but the chief interest in the present case lies in the involvement of the vulvar mucous membranes. These presented a pale yellow, leathery appearance, and in one situation there was a frank leucoplasia. The whole picture recalled some descriptions of kraurosis vulvæ.

A widow, a singing teacher, aged 53 years, called on April 22nd, 1914, on account of lichen planus presenting some peculiar features. The affection had first appeared on the back of the neck about a year and a half before. On the back and sides of the neck, across the upper part of the back, over the upper part of the chest, and on the extensor surface of the right forearm there were a number of lesions showing the characteristics of "white spot disease." The patches were white, leathery, wrinkled, sunken and atrophic looking. Some of them appeared as if collodion had been poured on the skin and allowed to dry. They were of a variety of shapes: some were circular, some square and some oblong, and many looked as if counter-sunk in the tissues. In the centre of many of those about the neck (and this is noteworthy) there were clusters of black topped dots that resembled comedones. Across the back of the shoulders the skin intervening between the patches had a dirty, brownish-yellow appearance, like that sometimes seen surrounding vitiligo spots. There were, however, no brown rings around any of the patches, as is sometimes described in atrophic lichen planus.

There were some lesions in the popliteal spaces, which were pallid white, and of the same general appearance as those previously mentioned. Their general shape was oblong, with the long diameter transverse to the axis of the limb, and the centre of each was dull gray, raised and keratotic and in the very centre they were cross-hatched and indurated, that is to say, lichenified. They were quite large; some of them as much as five centimetres long and one wide.

There were some recent well marked lichen papules on the flexor surface of the right wrist, that were prominent, firm, and had a highly keratinized surface. There was one papule on the flexor surface of the right forearm that was the size of a large pinhead.

It was prominent, beautifully umbilicated, and had a hyperkeratotic gray top.

There afterward developed on the extensor surface of the left forearm a few small, superficial, chalky white patches of irregular outline. Under the lens these surfaces showed V-shaped lines that were taken to be a modification of the lacework figures first described by Louis Wickham as at times occurring on lichen papules of the cutaneous surface. The patches in this case, however, were not papular, and the lines were not interlaced. None of the skin lesions itched, excepting those of the genitalia, the description of which will be taken up later.

CASE REPORT. The patient had well marked retraction of the gums and an active gingivitis, but no lichen lesions were found in the mouth or pharynx.

She was appealingly nervous. She had an evident bilateral malar flush that came on suddenly with a burning sensation, when she was nervous. She had a brown-coated tongue, attacks of palpitation of the heart, and she suffered from constipation. Physical examination revealed definite splashing of the stomach, and a distinct doughy roll in the left inguinal region, as if from lodged feces in the descending colon. She complained of a feeling of numbness in the fingers of both hands, but especially of the right, so that she frequently had difficulty in buttoning her waist. She also had a feeling of fullness in the right ear.

She had passed through the change of life without incident relative to it.

THE EXTERNAL GENITALIA. After a few visits to the office the patient informed us she had "something the matter with the privates that she had had for quite a long time": how long, she could not remember.

The genitalia presented a most extraordinary appearance. The labia majora were normal in size and in appearance, and were covered with a normal quantity of hair. The furrows between the labia majora and minora were slightly reddened, and at the very bottom a little excoriated, and they itched decidedly. The labia minora were elongated into prominent, large, flat, yellow, leathery looking flaps, with a smooth, leucoplasia-like surface, that was particularly leucoplasia-like on their inner surfaces, and very particularly so as a white, plaster like patch to the right of the meatus urinarius. The prepuce was present, but the clitoris was atrophied, and its site showed a puckered depression, and there was no frænulum. The atrophic looking, leathery change extended back across the perineum

and involved the anal opening. The introitus was so small as not to admit even a small vaginal speculum. Above the introitus the vaginal mucous membrane felt soft and pliable.

Because of the involvement of the genitalia, and the leucoplasia like appearance, inquiries were directed regarding syphilis, and a Wassermann test was made, with a negative result.

A piece of tissue was nipped out of the anterior edge of the right labium minorum, and the drawing is from a cross section of this.

HISTOPATHOLOGY.

The uppermost layer of the epithelium, that is to say the outermost, is hyperkeratotic, thickened and rough. The next underlying layer is what appears to represent the stratum lucidum, although it is doubtful if this layer is usually demonstrable in this situation. Toward the left it is a thin layer and fairly clear. It soon broadens out, however, into a layer at least three times as thick, and not at all clear. Next below this is the rete Malpighii, which is acanthotic. The interpapillary rete are large masses, and between these masses there is a corresponding upward extension of the papillae. In the corium immediately under the papillary layer there are empty intervals in the connective tissue, that are probably dilated lymphatic spaces. These are best marked directly under the apex of the drawing, and correspond to the free anterior edge of the labium minorum.

Throughout the corium there are many small round cells of inflammatory infiltration, that are both scattered and in irregular groups.

The connective tissue of the corium is dull and cloudy, as is also, in some places, the rete Malpighii, as if from the effects of a foregoing and still slightly persistent œdema. The walls of the capillary blood vessels are very thin, and are more indicated by an open space and by swollen endothelium, than by any distinct wall.



Cross-section of a piece of tissue snipped out of the anterior edge of the right labium minorum.

Here was a clinical picture difficult of interpretation on any other hypothesis than that it was the outcome of a lichen process, and yet it did not show any symptoms positively identifying it with lichen planus. The surfaces were in the main smooth and not rough or lichenified, except where they were leucoplastic. There were no lichen papules present in this region, nor were there any retiform figures, such as are found on mucous surfaces. The hyperkeratosis, however, that was evidently present, and particularly the plaster like patch of hyperkeratinization that was situated to the right of

the meatus urinarius, were just such lesions as one might expect in lichen planus. Furthermore, the association of this condition with atrophic lichen planus was indeed very suggestive. The hyperkeratosis, acanthosis and small round celled inflammatory infiltration were such as one would find in lichen planus. There were, however, no densely packed, circumscribed masses composed of small round cells, such as are found in the papillary layer and below, in the papular lesions of lichen planus. Nor were these to be expected in a lesion that was not at all papular.

REACTION OF THE SKIN UNDER ARSENIC. One of the most interesting events in the patient's history was the reaction she evinced toward arsenic. A prescription was given her, calling for equal parts of Fowler's solution and peppermint water, and she was directed to begin by taking five drops three times a day, and each day to increase the dose by one drop till she took fifteen or twenty at a dose. She never got beyond fifteen, as it caused an increase of nervousness, together with a depression of spirits that threatened to incapacitate her for her work. This depression caused by the higher doses of arsenic was first mentioned, as far as my knowledge goes, by Jonathan Hutchinson.

Besides this increase of nervousness and depression, the arsenic had a marked effect on the skin lesions. Instead of being sunken they rose to the level of the skin, or even, as in the case of the popliteal lesions, above that level, and each lesion acquired a bright red line about it. The lesions on the genitalia became sensitive and tender and much more itchy, and the increased pruritus in this situation endured long after the arsenic was discontinued. Those of the anus did not appear to be affected. While giving the arsenic many new typical lichen planus papules cropped out on the general surface.

The action of the arsenic in this case resembled that in a case of solitary lichen ruber planus of the tongue and cheek pouches, reported by Ledermann.

Lichen planus of the female genitals is a very rare affection. Rona has reported an acute lichen planus of the body with grayish white discoloration of the pharynx and of both palatoglossal arches. There were also several lentil sized, bluish-red, rigid patches on the prepuce of the clitoris, and on the inner surface of the large labia.

Although until recently almost no cases of lichen planus of the female genitalia have been reported, many cases of kraurosis vulvæ have, and now it transpires that some of them, at least, are lichen sclerosus, and it is perfectly reasonable, from the nature of the disease, that it should be so.

RELATION OF LICHEN SCLEROSUS TO KRAUROSIS VULVÆ. In 1885 Breisky described an atrophic disease of the integument and mucous membranes of the vulva that he called kraurosis. Siegfried Grosz gives the following description of the affection:

It is a shrinking of the small labia, of the frænulum, of the prepuce and of the inner surface of the large labia, back as far as the posterior commissure and the neighboring cuticle of the perineum. This shrinking produces stenosis of the vestibulum, with inelasticity of the tissues and frequent painful fissuring. The patients often complain of intense pruritus, painful urination and intensely painful coitus. The affected surfaces are discolored a dull slate gray of white. They are dry and are often covered with a thick, rough epidermis. The small labia are apparently absent, but on putting the parts on the stretch their site is indicated by shallow grooves.¹

Kraurosis vulvæ is evidently the advanced atrophic result of processes that profoundly affect the nutrition of the tissues. When, therefore, the disease comes under observation, the symptoms of the primary disease have probably long since vanished. This alone would account for the obscurity of its ætiology, of which almost nothing is said in accounts of the disease. Grosz quotes Orthmann as having observed a hypertrophic stage that preceded the atrophic, and he also gives Perrin's opinion that the disease is really a leucoplasia of the vulva.²

Bettmann says that kraurosis vulvæ may develop from pruritus. After repeated inflammatory attacks and intercurrent eczemas, the mucous membrane becomes dry and skinlike. Finally the whole external genitalia shrink and undergo a cicatricial change.³

As possibly throwing further light on this subject, and tending to identify some cases, at any rate, of kraurosis vulvæ with white spot disease or with circumscribed sclerodermia, there is a case reported by Dreuw.

Dreuw's case was that of a female, 49 years of age, who had been treated for seven years for kraurosis vulvæ, when she developed an eruption of white spots on the upper part of the chest and at the base of the neck, and in the middle of the back. The patches were about the size of a two franc piece, and they resulted from the coalescence of small spots, varying in size from a pinhead to a pea; the more recent ones consisted of the smaller spots, more distinctly separated. The primary spots were round or oval, white, scarcely raised, their centres being slightly depressed, and had blackish, horny scales, which could be easily detached by scratching, and probably corresponded to follicular orifices.

The follicular nature of this disease, its scaliness, and the absence of the lilac ring would make it more likely to belong to the lichen planus group than to sclerodermia, although Dreuw himself, who saw the patient, and who is an excellent observer, designates the case *sclerodermia circumscripta* with a question mark.⁴ It serves further to indicate how difficult it is to classify these atrophodermias.

Two cases have been reported by C. A. Hoffmann and one by Balzer and Landesmann that throw still more light on the aetiology of kraurosis vulvæ.

The labia in Hoffmann's first case were shrunken, but yet distinct, and in the other case the labia minora were present. The mucous membrane in his first case was variegated white and slate colored. In the interlabial fold the white areas formed linear bands. The mucous membranes of the diaphragma vulvæ and of the vagina were soft, moist and anæmic. In the second case of C. A. Hoffmann the mucous membranes of the small labia and of the inner surface of the large labia were slate colored, due to the presence of black-brown pigmented spots intermingled with white spots. On putting these white spots on the stretch, their surface was seen to be covered with innumerable closely set, pinhead sized indentations.⁵

In the case of Balzer and Landesmann the small labia had entirely disappeared, and the infundibulum gave the impression of a funnel turned inward with its small extremity formed by the vaginal orifice. The introitus vaginæ was contracted, admitting only two fingers. The mucous surfaces were a pale rose color, smooth, polished and leucoplastic looking. They appeared thickened, had lost their suppleness and felt dry. There was marked atresia of the vagina.⁶

In our case the mucous membranes were hyperkeratotic but looked smooth, excepting in one situation where there was a leucoplastic patch. The labia minora were not atrophied, but rather enlarged and thickened. They were pale yellow, giving the appearance of cartilaginous flaps.

The above facts justify the assertion that kraurosis vulvæ is frequently a manifestation of lichen planus, of which lichen sclerosus is a subvariety. The symptoms may be due to the disease itself or to the atrophy that so frequently accompanies and follows the disease.

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SPECIAL ARTICLE.

THE SIGNIFICANCE OF EOSINOPHILIA IN DERMATOLOGY.

By M. L. RAVITCH, M.D., and S. A. STEINBERG, M.D., Louisville.

REVIEWING the medical literature in regard to the significance of eosinophilia in general medicine and dermatology, we find such a dearth of scientific investigation that it is puzzling where to start in a search for an even plausible theory as to the ætiological factors involved. A symptom whose presence and extent are so easily determined as eosinophilia would be of the utmost value if it were distinctive enough to enable us to differentiate between various diseases, or even if sufficient were known of its causation and function to give us one basic ætiological factor in some of our obscure dermatoses. As a matter of fact, it has hardly been of value except to warn the diagnostician of a possible helminthiasis, or as one differential factor between scarlet fever and other diseases that resemble it. The cause of this is the neglect that the subject has received, and the resultant lack of knowledge as to its cause and function. We only know that in certain conditions it is the rule to find many white cells which contain granules characterized by the avidity with which they take the so-called acid stains, of which eosin is the most common. Unstained, these granules have a greenish color, which fades out more or less rapidly, not thereby, however, impairing their power to stain with eosin. The white blood cells in which these granules are found are of two kinds: a cell resembling in all other particulars the polymorphonuclear leucocytes, except that it seems to have a less lobulated nucleus; and a cell which seems to belong to the megalocyte type. The polymorphonuclear eosinophile is the one found in normal blood and in most eosinophilias; the other never appears in normal blood and patholo-

gically only when we would expect to find the ordinary megalocytes anyway. Both types are found in the blood-marrow in health, and may be increased there in conditions in which an eosinophilia of the circulating blood occurs. As to the composition or source of the granules, practically nothing is known.

The presence of eosinophiles may be classified as normal, physiologically increased and pathological. Normally they are present in the circulating blood up to about 2 per cent. of all the leucocytes. Physiologically an increase is found in the new-born infant, and in women at the menstrual period, and pathologically in many conditions, which, at first, hardly appear to be related, but which show, to a certain extent, certain factors in common, when viewed in the light of recent investigations. The fact that they are quite common in infestations and in certain skin diseases gave rise to the theory that they appeared in response to irritation of either the epithelial or endothelial cells. Later, when investigations were being made as to the acidity of the blood and tissues, it was suggested that an acidity or at least decreased alkalinity in any part of the body might be the cause of their appearance; according to this theory, the granules were composed of an alkali-albumin, carried by the leucocytes to the over-acid locality to neutralize the acidity. It is a fact that eosinophilia of a moderate degree is often found in certain affections of the nose, mouth and accessory sinuses, and especially have they been noted where the infectious agent is an acid-producing germ. The most important contribution to our knowledge, however, was brought forward during the study of the phenomenon of anaphylaxis. Eosinophilia was found to be a pretty constant and marked accompaniment of anaphylactic reactions. In this regard it must be noted that the eosinophilia that is caused by infestations is not due to the presence of the body of the parasite alone, but can be caused by injection of extracts from their bodies. Therefore it is not due to a mechanical irritation of the intestinal wall, but to a reaction to the soluble products or constituents of the invaders. Moreover, Calamida found that such extracts, placed in the tissues in capillary tubes, had a positive chemotaxis for eosinophiles, which were not only increased in the circulating blood, but accumulated in the capillary tubes. What makes this anaphylactic-eosinophilia still more applicable to infestations is the observation that the eosinophilia does not follow immediately on the infection with one of the parasites, but that several days must elapse. Moreover, Herrick found that injection of extracts of *Ascaris lumbricoides* caused no reaction until the animal had

been sensitized, but after sensitization a marked and prompt eosinophilia followed the injection. Extracts of nearly all the parasites are capable of acting as anaphylactogens, and probably do so act in infestations. Hay fever and bronchial asthma are both now recognized by most authorities as being anaphylactic reactions; in both of them eosinophilia is common, while in the latter it is the rule to find eosinophile cells in the sputum.

To mention briefly some of the non-dermatological diseases in which eosinophilia has been found: infestations with animal parasites, pleurisy, ascites, leukæmias, infantile pseudo-leukæmic anæmias, malignant tumors, especially involving the bone marrow, poisoning from camphor, cinnamic acid, bichlorides, iodine, and other compounds, infections of the nose, mouth and sinuses, scarlet fever, gonorrhœa, and after the febrile stage of acute infectious diseases.

It was Leredde that first called attention to the increase of eosinophilic cells in certain dermatoses; he held it as a very important factor. Leredde thought that an increase of eosinophilic cells in the blood was an indication of a toxic condition, but his views were even then disputed by other writers.

It was early noted that variations in the eosinophile count were frequent, not only among different individuals with the same disease, but from day to day in the same individual. This was largely due to the fact that in the blood films as spread for counting, the leucocytes are unevenly distributed, one type accumulating at the sides or end, while others tend to spread throughout the smear. Moreover, with Ehrlich's stain, which is difficult to prepare and uncertain, and was so much used at first, other granules were often mistaken for eosinophilic granules.

The variation of percentage of eosinophilic cells in the same disease and in the same individual was held by some as not so important from a clinical and diagnostic standpoint, but, according to MacLeod, this discrepancy in the number of eosinophilic cells is due to several causes: 1, the percentage not only varies in different individuals with the same disease, but in the same individual at different times; 2, until a universal method of preparing blood films and of counting the number of leucocytes is adopted, the results are bound to differ widely; 3, undoubtedly in some of the counts which have been recorded, the small granular eosinophiles have been included.

From our own experience and that of other dermatologists, we find that the following affections are accompanied by an increase of eosinophilic cells: eczema, particularly of the exudative type;

trichophytoses, mycosis fungoides, herpes zoster, erythemas, scabies, pemphigus, pellagra, dermatitis herpetiformis, iodo- and bromoderma, lichen planus, mercurial dermatitis, leprosy, scleroderma and psoriasis. In our single case of pityriasis rubra, after administration of massive doses of quinine, eosinophilic cells increased almost to 24 per cent. After discontinuance of the quinine the percentage of eosinophilia decreased to 8 per cent.

Eosinophilia is rarely found in urticarias unless they have assumed an exudative character. In herpes, eosinophilic cells were not only found in the blood but also in the corium, epidermis and in the vesicles and blebs. According to Klausner and Kreibich, Heuchs found them in herpetic blebs and Michaelis in miliaria crystallina and erythema exudativum multiforme. In pemphigus, Dubreuil's case, according to Crocker, showed 42 per cent. of eosinophilic cells, 44 per cent. of polymorphonuclear leucocytes, 14 per cent. of lymphocytes; Neumann's case also showed a large excess of eosinophilic cells, but in Danlos Hudelo's case, only 6 per cent. of eosinophilic cells were found; in Zelenev's case eosinophiles were found not only in the blood, but in the serum as well. Schamberg, in 24 cases of dermatitis herpetiformis collected from the literature, found the average eosinophilia in the blood to be 16.18 per cent. In a case reported by Schwartz, of prurigo, there was a general eosinophilia of 21 per cent. Suteyev reports a case of parapsoriasis lichenoides (Brocq) in which the eosinophilia ran 10 per cent. In four cases of well-developed pellagra, seen by us, eosinophilia ran from 7 to 16 per cent., while in the case of Zaurne and Yamada it ran as high as 20 per cent.

In regard to the relationship of eosinophilia and exudative diatheses, such as eczema and erythema multiforme exudativum, there are diverse opinions. Though Benfey corroborates Aschenheim's opinion that eosinophilia and the exudative diatheses are independent manifestations, from our analysis of several cases of eczema, and two cases of erythema exudativum multiforme, we are inclined to believe with Rosenstern, Staubli, Echert, and Putzig that there is a close relationship between them. We notice this particularly in children. We are fully in accord with Putzig, who came to the following conclusions: 1, the quantity of eosinophilic cells in healthy nursing children is not higher than in adults (2 to 4 per cent.); 2, in generally healthy nursing children who later developed exudative processes, there appeared from the second to the fourth week a greatly increased percentage of eosinophilic cells; 3, in children free from exudative diathesis, but suffering from infectious diseases, and

disarrangements of the gastro-intestinal tract, we observed diminution of eosinophiles; 4, children with dermatic changes show a typical eosinophilia soon after an exudative process sets in, while cases of infectious eczema, e.g., intertrigo, continue to have a low eosinophile count; 5, hypothetically, there is a relationship between anaphylaxis and exudative diathesis, and it is interesting to note the diminished coagulability of the blood in both of them.

Reviewing the subject, it is plain that many more statistics are needed, and differential percentage and total leucocyte counts should be made whenever possible in our cases of skin diseases. In the meantime, while awaiting further light on the subject, we may tentatively accept the theory that eosinophilia is an anaphylactic concomitant in many if not all cases.

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SOCIETY TRANSACTIONS.

PHILADELPHIA DERMATOLOGICAL SOCIETY.

Regular Meetings, Oct., Nov., Dec., 1914, and Jan., Feb., 1915

FRANK CROZER KNOWLES, M.D., *Chairman*.

CASE FOR DIAGNOSIS. Presented by Drs. STELWAGON AND GASKILL.

Mrs. S. B., aged 36, was born in Russia. The patient had been married fifteen years; she had five children, all living. The youngest child was two years old. July, 1914, the patient produced an abortion on herself. She was curetted and septic infection followed; a small red area appeared on the left arm, which was first thought to be erysipelas. Later the inflammation became darker and

small areas of ulceration took place with considerable discharge. This ulcerating process had progressed continuously until the time of presentation, when the condition covered the entire outside aspect of the left arm; it was irregular in outline and consisted of many eroded areas about 1 to $1\frac{1}{2}$ inches in diameter. There was considerable bloody discharge, which, unless dressings were changed twice daily, became purulent. The edges were slightly undermined but were smooth, not ragged; the surfaces of the ulcers were smooth and glistening and of a very brilliant red hue. Just below the elbow was a band of cicatricial tissue about $\frac{3}{4}$ of an inch wide which the patient stated was produced by burning, evidently in the effort to limit the erysipelas. On the inner side of the forearm, just above the wrist, was a small cicatrix which had been preceded by a sinus. On the leg were several very superficial scars and many hæmorrhagic spots. The Wassermann reaction was negative. For many reasons, the diagnosis of syphilis was to be excluded, but it was most seriously thought of; on account of the color and character of the edges and sinus formation, a diagnosis of blastomycosis was also considered.

CASE FOR DIAGNOSIS. Presented by DR. WALKER.

A. B., male, aged 5 years. About two months ago, the mother noticed a marked swelling of the legs, penis and scrotum. Following this, there appeared small elevated hæmorrhagic spots. These had continued, some disappearing and others forming very quickly, and at the time of presentation he had about 200 pinhead to pea-size lesions on the buttocks, a few on the arms and legs and an occasional one on the face. The ankles were still swollen and the joints very painful to touch or manipulation. There was a slight urticarial tendency but no artificial dermatographia. The color was bright red with no yellowish pigmentation, and the lesions were all more or less elevated. It was agreed that this was a difficult eruption to definitely place, but that it belonged to the group of purpuras, erythemas and urticarias.

POSSIBLE CASE OF PELLAGRA. Presented by DR. STELWAGON.

J. H., male, aged 70, born in Austria; he was a cabinet maker by trade. For three months this patient had been living in the almshouse and about five weeks ago was referred to the Dermatological Department of the Philadelphia General Hospital, on account of an eruption on the dorsal aspect of each hand, both of which were very much swollen and were painful. This eruption was most marked over the metacarpal bones; starting primarily as an erythema, in a very short space of time the entire epidermis had exfoliated, leaving a raw surface. From the wrist joint and half way up the arm there was a yellow-brown pigmentation, which stopped abruptly—the typical gauntlet effect of pellagra. Simultaneously, there developed a marked diarrhœa, and at the time of presentation the patient was having 20 to 30 movements a day, which it had been impossible to check, even by extreme means. The patient was very much emaciated, and on account of his age and ignorance of the English language it was impossible to ascertain if there was any degree of dementia. The tongue was very bright in color and clear. One curious factor in this case was that he had been in the same ward for three months with a man who had developed a frank case of pellagra, who was under observation at the time.

KERATOSIS FOLLICULARIS. Presented by DR. STELWAGON.

A. T., male, white, aged 48. The condition had been present for 24 years. At no time had it been entirely absent, while at others the entire body had been more or less covered with the typical follicular condition described by Darier. He was

presented before the American Dermatological Society at New York in 1907. A peculiar feature of the eruption was, that while it was typical on the lower part of the abdomen; the back, the axilla, the arms and thighs, it was atypical on the face, which was covered with a papular-vesicular-squamous eruption, distinctly eczematous in character. There was marked oozing and crusting with numerous scratch marks. Over the sternum was a large area of this same eczematous condition. Nearly all of those present had seen this patient previously, but agreed that it would be impossible to make any other diagnosis of the condition on the face and sternum than that of eczema. The patient stated that in the 24 years he had never had an eruption similar to the one on the face and over the sternum, it having always been of the same keratotic type.

CASE FOR DIAGNOSIS. Presented by DR. STELWAGON.

McN., white, aged 42. This patient first came to the out-patient department of the Jefferson Hospital, April, 1912. March 25, 1913, he entered the Philadelphia Hospital and had been under close observation ever since. On his admittance to the latter hospital, he presented a generalized eczema involving the entire body, marked scaling and intense itching. At the time of presentation his body was covered with an erythematous eruption, little scaling, and there was almost an entire loss of hair. The nails were greatly thickened throughout their entire length. While there was some little itching, it was not nearly so marked as formerly. Several times in the last year there had appeared on his chest and in the axilla elevated lesions, purplish in color, and, as suggested by Dr. Hartzell, looked like cloth-covered buttons, from half an inch to an inch and a half in diameter. None of these was present when the case was exhibited, but clear white areas showed where they had been. In view of the duration and of the purplish-colored lesions, which lasted only about two or three weeks, the diagnosis of granuloma fungoides in the pre-mycotic stage was held.

TUBERCULOSIS CUTIS. Presented by DR. STELWAGON.

McK. S., male, negro, 18 years of age. Five months ago the patient noticed a small hard papule on the right ala of the nose. This remained quiescent for a few weeks, when others began to appear around it. At the time of presentation both sides of the nose were covered with a hard brownish crust. There was little or no discharge, but considerable destruction of tissue. This patient had been treated in another hospital with the injection of salvarsan, with no improvement. While the diagnosis of tuberculosis cutis was maintained, yet the rapidity of progress and the comparatively large area involved, strongly suggested a diagnosis of syphilis.

PRURIGO NODULARIS. Presented by DRS. STELWAGON AND GASKILL.

Female, white, aged 42. The patient stated that the eruption had existed for six years; it consisted of about 20 small nodules on each arm and from 20 to 30 on each leg. They were generally distributed, and with the exception of those on the upper part of the thigh, were not more than four or five millimetres in diameter. On the upper part of the leg they were somewhat larger. The disease was accompanied by marked pruritus. While there was no question of diagnosis, it was remarked what a close resemblance it bore to a lichen planus hypertrophicus.

VERRUCA PLANA JUVENILIS. Presented by DR. SCHAMBERG.

Three children in one family, aged 6, 8 and 10 years respectively. An unusual feature was the three cases occurring in the one household and that one of the pa-

tients had many lesions throughout the scalp. In the other two, they were scattered freely over the face and nose. Dr. Stelwagon remarked that at the Jefferson Hospital the Tincture *picis mineralis comp.*, diluted 50% with water, had been used in these cases with very satisfactory results.

SYCOSIS VULGARIS. Presented by Dr. SCHAMBERG.

Male, white, aged 54. In the fold connecting the upper lip with the nose were two large-pea-size tumors, symmetrical, which had been present for over three years. Previous to that the patient had had a typical *syccosis vulgaris* following a catarrhal discharge from the nose. Dr. Hartzell said that he had seen these tumor formations in exaggerated cases of this disease, but not frequently as marked as in this case. Dr. Schamberg said that he had considered a beginning rhino-scleroma, but the tumors were entirely too soft to be that condition.

PSORIASIS. Presented by Dr. SCHAMBERG.

Female, white, aged 47. This patient had been one whom Dr. Schamberg had treated while investigating the cause of psoriasis in May and June of 1914 and who was included in one of his series of cases. She had been put on a low proteid diet to the exclusion of meat, fish and eggs and with a moderate amount of milk. The only external treatment had been vaselin. There had been a marked improvement in the psoriasis, but the principal reason for which she was exhibited was the improvement that had taken place in the rheumatic pains which the patient had had five or six years, and which, under this restricted diet, had entirely disappeared. There had been no loss of weight; her general health had been much improved and the patient said that she was just as strong as ever and could do even more household work.

TERTIARY SYPHILIS. Presented by Dr. SCHAMBERG.

White, male, aged 45. Three months ago this patient had come under observation with a verrucous growth on the inside of the right foot, just below the ankle. It was covered with brown, wart-like scales and was about an inch and a quarter in diameter. There was no discharge and no ulceration. The patient had been given two injections of salvarsan, followed by injections of mercury, but with no local treatment whatever, and at the time of presentation only showed a smooth brownish discoloration.

CASE FOR DIAGNOSIS. Presented by Dr. DAVIS.

Male, white, aged 37. For five years he had had an eruption on the right cheek and lateral aspect of the mandible. This started as a small papule and was made up of about 20 deep-seated lesions when presented. There was no ulceration, and while the patient stated that the eruption had been better at times, it never had been entirely absent and had grown steadily worse. While the diagnosis of tertiary syphilis was agreed upon, yet Dr. Hartzell felt it would not be possible to entirely eliminate tuberculosis cutis without the biopsy.

LUPOID SYCOSIS. Presented by Drs. STELWAGON AND GASKILL.

Male, mulatto, aged 24. This condition had been on his face for one year and while there was no difficulty in diagnosing, it was of interest on account of the perfect symmetry, the lesions occupying an area of $2\frac{1}{2}$ inches on each cheek. There were small areas of slight scarring and involvement of the hair follicles, the condition abruptly stopping at the margin of the beard. In the last two weeks a few scattered lesions had begun to appear on the chin.

CASE FOR DIAGNOSIS. Presented by DR. WALKER.

Male, aged 53. On the 29th of October, 1914, the patient noticed a small papule on the dorsal aspect of the right hand. This spread quite rapidly, and upon presentation, less than three weeks after its first appearance, the lesion covered almost the entire back of the hand. The centre part was decidedly boggy, and on pressure there was a scanty yellowish discharge through the several sinuses. The surrounding area was markedly inflammatory, of a purplish tint and somewhat œdematous. Dr. Walker had suspected blastomycosis, but an examination of the spreads showed nothing but staphylococci. No biopsy had been performed.

Dr. Stelwagon suggested a pyodermic affection, particularly as the man was a slag roofer. Dr. Hartzell said that trichophytosis profunda must be carefully considered and a thorough search for the organism should be made.

ORIENTAL SORE. Presented by DR. HARTZELL.

A. B., male, aged 33. The patient had been doing field work in Yucatan and other parts of Central America for five months, in 1910. Two months after he returned he noticed on the right ear a small pustule, which discharged slightly and extended very slowly until at the time of presentation it involved the entire upper part of the helix of the ear. This part of the ear was markedly swollen, inflammatory, and more or less covered with a dirty gray crust, with a few points of discharge. On the lobe of the ear and adjacent to it were three or four small isolated lesions, which, according to the patient, bore a very close resemblance to the original point of infection. The patient remarked that the condition was very common in Yucatan; that he had seen in one lumber camp of 250 men at least 200 cases and nearly all on the ear; that it was thought by the natives to be due to the bite of a fly, and one peculiar fact that he had noticed was, that people living on one side of a river would be infected and on the other side entirely escape. This patient had come so recently under Dr. Hartzell's care that no examination had been made for the Leishman's bodies, but further report of this case will be forthcoming.

CASE FOR DIAGNOSIS. Presented by DRs. STELWAGON AND GASKILL.

Mrs. S. B., aged 36. This patient was presented at the last meeting of the Philadelphia Dermatological Society, and was exhibited at this meeting to show the marked improvement which had taken place. The raw, glistening, irregular patches had entirely healed with the exception of one on the upper part of the arm. The cicatrices were rough, irregular in outline, nodular in places and of a brilliant bluish-red hue. This patient had been given potassium iodide for two weeks and the improvement had been marked. As an experiment, this had been discontinued, no medication whatever given, and the healing process had been just as rapid and certain as under the potassium iodide. Externally, the arm had been dressed with cloths saturated with olive oil. While at the last meeting, the question of syphilis was almost thrown out, so again was this done at the present meeting on account of the method of healing, the contour, the color and the negative Wassermann. A biopsy had been made and no organism suggestive of either blastomycosis or actinomycosis found—simply a chronic inflammatory condition of the skin. Repeated examinations of the discharge showed pure staphylococci in great quantities.

PARAKERATOSIS (?). Presented by DRs. STELWAGON AND GASKILL.

J. P., male, aged 30. Six months ago, the patient noticed a small inflammatory area on the left side of the chest. This spread rapidly until it reached the

size shown on presentation, approximately five inches in diameter. Other lesions appeared on the lower abdomen and thighs and a few small ones on the calves. The lesions were of a distinctly brownish tinge and were covered with a grayish-white scale. The inflammatory zone encircling them was also of this brownish hue and faded gradually into the surrounding skin. There was marked itching all over the body. For about two months the patient had been suffering from a series of furuncles, and three weeks ago he developed a very severe attack of gangrænous herpes zoster. (He had not been taking any arsenic. Question was made of this on account of the comparative frequency with which herpes zoster will follow the use of this drug.) The speakers had considered very carefully the question of elephantiasis græcorum, but there were no areas of anæsthesia discernible. The color, the contour, the character of scaling excluded the diagnosis of seborrhœic dermatitis, and the consensus of opinion was that the case belonged to the group characterized as parakeratosis.

ERYTHEMA MULTIFORME. Presented by DR. STELWAGON.

White, female, aged 42. The patient was an inmate of the Nervous Department of the Philadelphia General Hospital. Eight days previously she had noticed, upon rising in the morning, an erythematous plaque on the inner side of the right knee, from $1\frac{1}{2}$ to 2 inches wide and 3 inches long, very slightly elevated, brilliant red in color, with a few small vesicles at the edge. The following morning she noticed two more and the next morning three more, one on the left leg. Each individual lesion had developed within twelve hours and during the night, as they were not present when she retired. Some looked slightly hæmorrhagic. They had remained the same size throughout the entire attack. There had been no internal medication for six months which would account for an eruption of this character, although the patient had epilepsy, and while dermatitis factitia was suggested, it did not bear any great resemblance to it, and the diagnosis was discredited.

KERATOSIS FOLLICULARIS. Presented by DR. STELWAGON.

The patient had been presented at the October meeting, and was shown again only to demonstrate the improvement which had taken place in the eczematous condition on the face and body. There had been no change in the follicular character of the eruption during the month of treatment. Attention was called to the marked thickening of the palms, although the patient had not had arsenic for at least two years.

EIGHT CASES OF TINEA TONSURANS. Presented by DR. STRICKLER.

These patients had all been typical cases of tinea tonsurans, and had been treated by the injection method for the last several months. A full report of these cases will be published at a later date.

RINGWORM OF THE NAILS AND SOLES. Presented by DR. STELWAGON.

Male, white, aged 42; baker by occupation. The nails of the hands and toes showed marked thickening throughout their entire length and particularly at the free border, where they were probably a quarter of an inch in thickness. They were discolored and at the base showed a tendency to return to the normal condition. On the soles, there was marked thickening of the epidermis, particularly in the region of the heels, with considerable exfoliation and maceration of the skin. On inspection, part of the soles looked as though deep callosities were present, but this was found to be nothing but a superficial thickening. The lesions

had existed for about two months. This man had recently come under observation, and no microscopical examination had been made.

Dr. Hartzell said the case looked more like one of eczema, but that he would not care to throw out the diagnosis of ringworm until a thorough examination had been made.

ERYTHEMA INDURATUM. Presented by DR. CORSON.

Female, aged 42. Six months ago there developed on the anterior tibial surface of both legs deep-seated nodules, painful to the touch and rather violaceous in tint. The surrounding skin was quite œdematous. There had been little change in the lesions during this length of time except that they had become more painful. The patient was well nourished and gave no suggestion of any tuberculous involvement. While she had been given potassium iodide, there had been no improvement. Peculiar features of this eruption were the occurrence of the disease in a person of her age, and on the anterior surface of the legs, when the majority of cases occurred on the posterior surface and in younger individuals.

MULTIPLE BENIGN CYSTIC EPITHELIOMA. Presented by DR. GASKILL.

E. R., female, aged 18, white. Five years ago, the patient first noticed small spots appearing on the neck. These had continued to appear until the time of presentation, when the entire anterior surface of the chest as far down as the middle of the sternum and out to the axillæ was more or less covered with these isolated lesions. They stopped abruptly at the upper border of the scapula; a few isolated lesions were in the axillæ and some of slightly different character on the surface between the inner side of the eye and the nose. There were probably between three and four hundred lesions in all and none larger than a spit pea. They were of a brownish tint except over the top of the sternum, where they were rather inflammatory—probably from the chafing of the collar. All were slightly elevated and irregular in outline, with one axis longer than the other and with a tendency to follow in the lines of cleavage. The lesions were quite firm to the touch, almost keloidal in character. There were no subjective symptoms and the patient was apparently in good health. On the face the lesions were smaller, more inflammatory and were associated with milia. This condition did not present a typical appearance of multiple benign cystic epithelioma, but it was agreed by those present that it bore a closer resemblance to that disease than to any other. A biopsy will be performed and report made later.

CASE FOR DIAGNOSIS. Presented by DRs. STELWAGON AND GASKILL.

Male, white, aged 68. This patient had had an erythematous eruption for five weeks. Deep pink, irregular in outline, appearing on the chest and on the buttocks, fading gradually into the surrounding skin and lesions from an inch to two inches in length, invariably in the lines of cleavage and accompanied by considerable itching. There was no scaling. The patient had not been taking any drugs, but had had an operation for inguinal hernia, and this eruption had followed very shortly afterward. While it was remarked that it was unusual to find lesions of this character following the lines of cleavage, it was thought to belong to the group of erythemas.

GRANULOMA ANNULARE ON PALM OF HAND. Presented by Dr. GASKILL.

The patient was a boy, 14 years old, who had had for six weeks an annular lesion on the palm of the hand. It was composed of a series of flattened, elongated nodules, forming a broken ring, very irregular in outline. The lesions were of

slightly darker tint than the palm and there was no inflammatory area around it. The peculiar feature of this eruption lay in the fact that it was in the palm just above the little finger. It was remarked that the majority of these cases were on the dorsal aspect of the hand, and that while a few cases occurring in the palm had been reported, yet it was the exception.

TERTIARY SYPHILIS. Presented by DR. WALKER.

A female, aged 53, for four years had had an ulcerating lesion on the right leg and two years ago one appeared on the face. At the time of presentation, the entire nose was involved, there being deep ulceration, marked loss of tissue; between the eyebrows there was a dime-sized lesion and several small ones on the lip. An inflammatory area about three inches in diameter was on each cheek, nodular and considerably indurated. There was no question of the diagnosis, but the interesting part lay in the fact that the patient had been treated in two very well known hospitals in a neighboring city for two years, for lupus vulgaris, X-ray and ointment having been used.

CASE FOR DIAGNOSIS. Presented by DR. STRAUSS.

The patient was a male, white, 13 months old. When the child was two weeks old, the mother noticed a swelling on the big toe of the left foot. Since that time, lesions in various parts of the body had continued to appear until there was a more or less generalized eruption. Each one of a dusky red or yellowish-red in appearance, the individual lesions were from a quarter of an inch to an inch in diameter, slightly elevated, firm to the touch and accompanied by intense itching. The back was almost completely covered with these nodules and on this portion of the body the color was of a much brighter red. Upon stroking the skin, typical urticarial wheals appeared, accompanied by itching. None of the lesions had ever disappeared and new ones were forming constantly. The child appeared to be very healthy, bowels regular and appetite good. The condition suggested one of urticaria pigmentosa; a diagnosis of prurigo nodularis was only tentatively considered, the number and size of the lesions with the lack of generalized pigmentation being against the latter diagnosis.

TERTIARY SYPHILIS. Presented by DRS. STELWAGON and GASKILL.

The patient was a female, white, aged 24. Seven years ago, an eruption made its appearance on the upper part of the right thigh and had spread gradually since that time. Four years ago, it made its appearance on the left leg. The lesions existing on these two parts of the body being entirely dissimilar, bearing not the slightest resemblance to each other, except perhaps in a very slight degree in the gradation of the color. On the left leg there was marked ulceration surrounded by a purplish-brown inflammatory area, five or six inches in diameter, with considerable undermining of the edges of the ulcers and with a purulent discharge. On the right leg, the eruption extended anteriorly from the groin, two-thirds of the way down the thigh, at which place it extended completely around the leg and from there to the popliteal space. There was considerable induration and the color was a yellowish-red. Scattered throughout were small nodules, the tubercles irregular in outline, the size of a small bean, slightly elevated above the surrounding skin. There was considerable induration throughout the entire plaque, particularly in the popliteal space. Traversing the entire mass were dilated veins. Where there was no actual scarring, the skin looked atrophic and wrinkled. While those present all agreed with the diagnosis, yet it was remarked from the condition on the right leg where there was no actual atrophy but a large number of tubercles of a yellowish-brown color, a diagnosis of tuberculosis cutis could not be absolutely eliminated, as the two conditions might

exist in the same patient. There had been considerable improvement in the two weeks that she had been under observation.

CASE FOR DIAGNOSIS. Presented by Drs. STELWAGON and GASKILL.

The patient was a male, colored, aged 53. He had had this eruption ever since he could remember and he presented a generalized atrophic condition all over the body. He was a mulatto and the individual lesions, which varied in size from one-eighth to three-eighths of an inch in diameter, were surrounded by a small area of increased pigmentation and the centre several shades lighter. His history was rather vague as the only subjective symptom was the slight itching, and he had grown so accustomed to it that he did not consider it of importance; it was only on account of an official examination having been made of his person that he was referred to the Jefferson Hospital. Several lesions which were evidently new and papular in character, had had their tops scratched off recently, as there was considerable bleeding. While the eruption was generalized, it was more pronounced on the forearms and on the thighs. A diagnosis of prurigo was considered, but not maintained.

DISCUSSION.

Dr. SCHAMBERG remarked that the case bore some resemblance to one that had recently come under his observation in which there were atrophic scars following a secondary eruption of syphilis.

CASE FOR DIAGNOSIS. Presented by Dr. KNOWLES.

The patient was a male, negro, aged 26. The eruption began four months ago with a few papules on the hands. Within two months they began to appear on the face and at the time of presentation the cheeks, chin, back of the neck, forehead and the vermillion of the lips were more or less covered with this papular eruption. The majority of the lesions were circular in outline, though a few on the neck were ovoid. There was apparently little inflammation, though this question presented some difficulties in a full blooded negro. He stated that the new ones came out every time he shaved, but this statement must be taken *cum grano salis* as parts other than the bearded region were involved.

DISCUSSION.

Dr. STELWAGON remarked the close resemblance it bore to a case of acne acuminatus.

Dr. SCHAMBERG suggested that some of the lesions resembled a lichen planus.

Dr. GASKILL called attention to the resemblance it bore to a case he had presented before the Society two months ago, of multiple benign cystic epitheliomata.

Dr. KNOWLES stated that he had only seen this patient the morning of the day of presentation and that a microscopic examination would be made in order to make a diagnosis and a report rendered at the next meeting.

SYCOSIS VULGARIS. Presented by Dr. HIRSCHLER.

At the November meeting, Dr. Hirschler and Dr. Schamberg had presented a case of sycosis vulgaris with two large tumors on the upper lip, to the left of the median line. At that time, attention was called to the unusual size of tumors of such firmness growing in association with this condition. These tumors had been excised and the patient now presented nothing but a typical case of sycosis vulgaris. Good results had been obtained, and Dr. Hirschler had made a complete histological examination and would report the case later.

MYCOSIS FUNGOIDES. Presented by DR. SCHAMBERG.

F. McN., white, aged 44 years. This patient had been exhibited at two previous meetings, the last time by Dr. Stelwagon at the regular meeting of this Society, October 19th, 1914, and reported in part as follows:

"This patient first came to the out-patient department of the Jefferson Hospital, April, 1912. March the 25th, 1913, he entered the Philadelphia Hospital and has been under close observation ever since. On his admittance to the latter hospital, he presented a generalized eczema involving the entire body, with marked scaling and intense itching. At the present time, his body is covered with an erythematous eruption, little scaling, and there is almost an entire loss of hair. The nails are greatly thickened throughout their entire length. While there is some little itching, it is not nearly so marked as formerly. Several times in the last year there have appeared on his chest and in the axilla, elevated lesions, purplish in color and, as suggested by Dr. Hartzell, looking like cloth covered buttons. None of these was present now, but clear white areas showed where they had been. In view of the duration and of these elevated purplish lesions, which lasted only about two or three weeks, the diagnosis of granuloma fungoides in the pre-mycotic stage was held." At the time of presentation, there were several typical lesions of mycosis fungoides, one over the eye, one on the side of the neck and one on the chest and several suspicious looking ones on different parts of the body, varying in size from a half to two inches in diameter. On the chest there were several dollar-size areas which were the remains of the previous attack and which were several shades lighter in color than the general inflammatory condition of the skin. He had had two injections of autoserum, with but slight benefit. This case had been of considerable interest in that it had been under close observation for almost two years and that the pre-mycotic stage had existed so continuously, with an occasional suggestion of a true diagnosis. Dr. Stelwagon remarked that he had felt several times, since having this patient under observation, that it might be a case of Hodgkin's disease.

PEMPHIGUS VEGETANS. Presented by DR. SCHAMBERG.

Male, negro, aged 30 years. The patient was admitted to the venereal ward of the Philadelphia General Hospital in the early part of December, 1914, with suspected syphilis. There was a lesion on the penis which was suggestive of a chancre and he had a sore throat. He received an injection of neosalvarsan on the 7th of January, 1915, and subsequently there began to develop a bullous eruption, with the lesions in the axilla, the groin, the buttock, the popliteal space and a few over the abdomen. Some of the bullæ were fully three inches in diameter and none was smaller than one inch, there being in all probability two dozen lesions. The Wassermann reaction was strongly positive. At the time of presentation there were no bullæ but a fungoid growth had appeared where lesions had previously been, slightly elevated and warty in character. Dr. Hirschler showed microscopic sections taken from the lesions.

DERMATITIS HERPETIFORMIS. Presented by DR. STELWAGON.

Male, white, aged 42 years. The patient had had the eruption for over one year, consisting mostly of papules and nodules but with no distinct vesiculation. There was a marked tendency to grouping and the lesions were more or less generalized over the trunk with preponderance over the abdomen. Some few of the lesions were very slightly vesiculo-papular in character and the eruption was accompanied by marked itching. The nodular condition of the lesions created a slight suspicion of the condition being one of prurigo nodularis but with the wide distribution and the tendency to grouping, the diagnosis of dermatitis herpetiformis was maintained.

PSORIASIS. Presented by DR. SCHAMBERG.

Female, white, aged 19 years. This patient, when first seen by the speaker, had a typical case of psoriasis with a more or less generalized distribution. She had received two injections of the autoserum at an interval of five days. Half of the affected area had been covered with Goa powder and the other half with plain vaseline. Only the half covered with the Goa powder showed the slightest improvement. This was the experience of others working on the same line, to wit, that the autoserum alone was of little or no avail but that the combination with chrysarobin or some of its derivatives produced marked improvement. It was also remarked that after the application of the chrysarobin, the affected areas became a very deep red, of brilliant hue. This had been noted by all those present who had been using this form of treatment.

PSORIASIS. Presented by DR. SCHAMBERG.

Male, white, aged 8 years. The patient had had psoriasis for four years, of the guttate type, and had been treated for eleven days with a new derivative of Goa powder. All the lesions had disappeared with practically no inflammation or discoloration. This had been the only form of treatment employed. Dr. Stelwagon remarked that in this type, in children, the lesions would often very quickly disappear. Others had noticed the same fact.

HEREDITARY SYPHILIS (?). Presented by DR. SCHAMBERG.

Male, white, aged 15 years. The patient had had the eruption for the past ten years. The lesions were confined to the right arm and hand and the left leg, below the knee. There was ulceration and considerable scarring. The Wassermann reaction was positive and there was a marked tuberculin reaction. The patient had been treated with potassium iodide and mercury for the past few weeks and there had been some slight improvement. Dr. Hartzell suggested that the case might be one of lupus vulgaris on account of the nodular appearance. The scarring, however, was distinctly that of syphilis,—so-called cigarette-paper scarring. The lesions bore such a close resemblance to the two diseases that no positive diagnosis was made. A further report of the case will be made after continued treatment.

GRANULOMA ANNULARE. Presented by DR. KNOWLES.

Female, white, aged 6 years. The patient had had the eruption for two months and the lesions were confined to the palm of the right hand and wrist of the left hand, and both were about the size of a silver dollar. The one on the palm was distinctly inflammatory while the other was of a very low grade of inflammation. Dr. Knowles remarked that this was the first case of this disease which had been presented to the Society for four or five years. Dr. Stelwagon, however, said that Dr. Gaskill had shown a photograph at the November (1914) meeting of a case of granuloma annulare in the palm of the hand of a patient who had been in Jefferson Hospital, and which had completely disappeared under the use of salicylic acid ointment, about 4% strength.

TUBERCULOSIS CUTIS. Presented by DR. HIRSCHLER.

Male, white, aged 34 years. Several years ago, the patient had had a mastoiditis on the left side, with considerable discharge. Following the operation for this, a tuberculous ulcer made its appearance just below the scar. The original ulcer had been very deep and extended up behind the ear, almost to the top. One application had been made of zinc chloride paste, 75%, and the

result was so satisfactory that all agreed that it was better than could have been obtained by surgical means.

LUPUS ERYTHEMATOSUS. Presented by DR. DAVIS.

Negro, male, aged 50 years. The lesions had existed for seven years and were on the face, the buccal mucous membrane and on the buttock. In the last situation, there was only one lesion, which was about the size of a silver dollar and it would have been difficult to make the diagnosis of lupus erythematosus from that one lesion alone, but the association with the lesions on the face made it a simple matter. There were a number of small lesions in the mouth and some on the lower gums. The greater part of the left cheek was involved and a small part of the right. There was very little destruction of tissue and this only a very fine scarring. Dr. Stelwagon remarked that he was more convinced than ever that lupus erythematosus was of tuberculous origin and Dr. Schamberg agreed with this. Dr. Hartzell, however, said that he did not feel that there had been sufficient proof offered to warrant this conclusion.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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DERMATOLOGISCHE WOCHENSCHRIFT.

(Aug. 22, 1914, lix, No. 34.)

Abstracted by CHAS. GOOSMANN, M.D.

COPPER CHEMOTHERAPY WITH LEKUTYL INHALATIONS IN
TUBERCULOSIS OF THE UPPER AIR PASSAGES. ARTHUR
STRAUSS, p. 1007.

Lupus of the face is associated with mucous membrane involvement in a large proportion of cases. In 34 cases Strauss found that almost 50% had their origin in the mucous membranes, from which they extended to the skin. In lupus of the face, Philippson found the nasal mucosa involved in 25%, Jadassohn in 45%,

Jungmann 42%, and Albanus in 46%; and the last found that in cases involving the cutaneous surface of the nose, 87% had affected the nasal mucosa. It is important to treat the mucous membrane involvement as well as the skin, in order to effect permanent cures.

In the treatment of the mucous membranes the caustic applications are least satisfactory. Nascent iodine, by Pfannenstiel's method, or by Reyn's electrolytic procedure, gives better results. Finsen light yields good results, but is time-consuming and expensive. X-ray and radium treatment are unsatisfactory. Under these circumstances a new procedure, that is simple and reliable, should be welcome.

Strauss treats the mucous membranes by local applications and tampons of lekutyl, and has the patient use inhalations from a nebulizer containing the following: Ungt. lekutyl (Bayer) 20.2, Tinct. fœniculi 5.0, Saccharin 0.1, Paraffin liquid ad 50.0. Five or ten minute treatments are advised one or two times a day. For the after-treatment, X-rays are advised.

EXPERIENCES WITH MERLUSAN. EMANUEL FREUND, p. 1011.

Thirty patients were treated with merlusan pills and Freund draws the following conclusions:

In latent syphilis, treatment with merlusan alone does not often convert a positive Wassermann reaction into a negative one. In this respect it does not differ from other forms of mercurial treatment.

The relief of symptoms is just as prompt as after mercury injections or inunctions, and salvarsan can be used conjointly, if desired.

(*Ibidem*, Aug. 29, 1914, lix, No. 35.)

ON THE PRACTICAL VALUE OF THE PALLIDIN REACTION. J. ROEDNER, p. 1031.

Pallidin is an aqueous extract derived from syphilitic pneumonic lung. The test is made by cutaneous vaccination. Klausner and Fischer, who originated the test, claim that it is specific in tertiary and hereditary syphilis. Roedner gives a detailed account of his experiences with pallidin, in which he failed to obtain a single positive reaction in 8 cases of tertiary syphilis.

THE TREATMENT OF ECZEMA WITH HOT BATHS. CESAR PHILIP, p. 1038.

In eczema of the hand, no matter whether acute or chronic, the following treatment is recommended: night and morning the hands are bathed for half an hour in soapy water that is as hot as can be borne. Any mild toilet soap will do. After drying thoroughly, resorcin ointment (resorcin, ichthyol $\bar{a}\bar{a}$ 5.0, ac. salicyl. 2.0, vasel. flav. ad 100.0) is applied in a thin layer, and covered with cotton and a bandage. During the day cotton gloves may replace the bandage dressing. In 4 to 8 days desquamation is well advanced, and then the bathing is only used at night and for fifteen-minute periods, and the following ointment applied: ol. rusci 2.0—4.0, zinci ox., vasel. fl. $\bar{a}\bar{a}$ ad 100.0.

Two weeks usually suffice for a cure, and in the unusual event of a recurrence, the same treatment can be followed.

(*Ibidem*, Sept. 12, 1914, lix, No. 37.)

A STUDY OF THE SPINAL FLUID WITH REFERENCE TO INVOLVEMENT OF THE NERVOUS SYSTEM. UDO J. WILE and JOHN HINCHMAN STOKES, p. 1079.

This is the same as their contribution to *THE JOURNAL* of September, 1914.

(*Ibidem*, Sept. 19, 1914, lix, No. 38.)

A CASE OF RAPIDLY FATAL SYPHILITIC MENINGITIS NINE WEEKS FOLLOWING THE PRIMARY LESION. TH. FAHR, p. 1103.

A well-nourished male patient, 25 years old, with a maculo-papular eruption, had a sudden attack of unconsciousness, of short duration, followed by the expectoration of a little bloody mucus. He was taken to a hospital and examined, with negative findings. Shortly afterward he became comatose and died within twelve hours. Autopsy showed a syphilitic meningitis.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(Oct. 13, 1914, lxi, No. 41.)

Abstracted by A. W. STILLIANS, M.D.

A SECOND ABORTIVE CURE OF SYPHILIS IN A CASE OF REINFECTION AFTER TWO YEARS. E. HOFFMANN, p. 2063.

The common conception of reinfection with syphilis as a proof of cure of the first attack, requires a very critical review of the cases, for many reinfections are reported within a few months of the end of treatment, and, as Thalmann and Friboes, in agreement with Hoffmann, teach, these cannot be proven reinfections. A localized recurrence can be indistinguishable clinically and microscopically from a true primary lesion. Only exceptionally, however, do these appear later than 5 or 6 months after the end of treatment, and if, after 9 months or more of clinical and serological freedom from syphilis, a new primary lesion appears, with a clear history of exposure, the probability of a real second infection is very great.

The case here reported was entirely negative even after provocative salvarsan and lumbar puncture. The first chancre was in the coronary sulcus, Wassermann negative, spirochætæ present. Infection took place 6 weeks previously. The patient received one injection of mercury salicylate before consulting Hoffmann, who then gave 3 intravenous injections of salvarsan, at intervals of 18 and 19 days, 0.3 gm. twice, and 0.22 gm. once. With this, 24 inunctions of mercury, of 4.0 gm. each. The Wassermann was always negative, taken at intervals of every few months after the end of treatment. Six months after the treatment he was given a provocative dose of salvarsan, 0.4 gm., which was followed by no reversal of the Wassermann reaction.

Two years and two months after the end of the treatment, he returned with a lentil sized, hard, crusted excoriation on the outer foreskin, well removed from the site of the original lesion. Five weeks before he noticed this lesion, he had been exposed to infection. The round shape of the lesion, its indurated base, ham color, serous exudate full of spirochætæ pallidæ and the typically enlarged glands made the diagnosis of reinfection certain. The histological appearance of the lesion was also typical.

The treatment this time was more vigorous, one injection of 0.35 gm. salvarsan and four of 0.4 gm. each, at intervals of one week, with 42 inunctions of mercury of 4.0 gms. each. Except for a slight positive reaction in the serum at the time of the second injection of salvarsan, he has again been fully negative. Provocative salvarsan injection and lumbar puncture were negative. More than a year has elapsed since the second abortive treatment. The slight serum reaction Hoffmann discredits, for such reactions occur in non-luetics. It is much better to use the original method of Wassermann and to pay no attention to these slight reactions, otherwise than to repeat the test or to try to strengthen it

by a provocative injection, than to draw the serum test too fine, for this results only in slight reactions where none should occur, and keeps both doctor and patient in needless anxiety.

Hoffmann, in answer to Scholtz, maintains that his method of abortive treatment, weekly injection of 0.3 or 0.4 gm. salvarsan with a thorough course of inunctions, is fully as efficient and much simpler than the method of Scholtz.

(*Ibidem*, Oct. 20, 1914, lxi, No. 42.)

CONCERNING THE PREVENTION OF COAGULATION BY LUETIC SERA (HIRSCHFELD AND KLINGER) AND THE CHEMICAL NATURE OF CYTOZYME. E. FRAENKEL and F. THIELE, p. 2095.

A preliminary report on an investigation of the coagulation test for lues proposed by Hirschfeld and Klinger. Sheep's plasma is obtained by the oxalate method, and from part of it the fibrin is precipitated by calcium chloride to obtain the serozyme or thrombogen. As cytozyme or thrombokinas, an extract of guinea pig heart is used. The luetic serum is inactivated for an hour at 50° C., and the serozyme is diluted to 20%, two hours before it is needed in the test.

Cytozyme, $\frac{1}{20}$, $\frac{1}{40}$, $\frac{1}{100}$ cc., diluted with normal salt solution, is mixed with 0.1 cc. luetic serum and allowed to stand an hour. Then 1.0 cc. of a 5% calcium chloride solution in normal salt solution is added, and 0.5 cc. of the 20% serozyme. This is allowed to stand fifteen minutes, and 1.0 cc. of a diluted plasma, made by adding to one part plasma, one part sodium oxalate solution and three parts normal salt solution, then added. The time of coagulation is now observed.

Non-luetic sera coagulate within fifteen minutes, the time varying with different preparations. Luetic sera delay coagulation. This is a complement binding test and agreed with the Wassermann reaction in most instances. The attempt to obtain similar tests in pregnancy and in cases of carcinoma failed.

By comparative tests of alcohol extracts, ether soluble fraction of alcoholic extracts and acetone insoluble fraction, they agree with Klein and Fraenkel that the active body is a jecorin-like substance attached to the phosphatids. The ether soluble fraction is by far the most active.

(*Ibidem*, Nov. 3, 1914, lxi, No. 44.)

THE REMOVAL OF THE FEMALE BEARD. K. UNNA, p. 2164.

The need of a method applicable to the cases having a thick growth of fine black hair is mentioned. The sodium peroxide soap originated by the author's father has been used with satisfaction since 1890. The hypertrichotic area is covered once or twice a day with the suds, for from two to five minutes, then washed off and gelanth cream applied to the irritated skin. The strength of soap used and the length of the application depend on the irritability of the skin. Usually the hair is bleached in two weeks, and after that it is necessary to use it only once or twice a week in order to keep an even color. Instead of stimulating the hair, as some claim, it was found that in all cases in which this treatment was kept up for any length of time the growth of hair gradually became less vigorous.

In order to remove hair more rapidly the method of Schwenter-Trachsler was tried, with encouraging success. It consists of careful polishing with pumice stone, either in the form of a round cake, a whet-stone shaped cake for the corners about the eyes and mouth, or as the powder, applied on a wet sponge, the wet finger, or mildest of all, the dry finger. The skin is polished for from two to five minutes, according to the amount of reaction, wiped dry, and gelanth cream applied. This is repeated every day until a lasting reaction appears, then omit-

ted until it has subsided. After a few months of such treatment the growth of hair becomes much less noticeable, and the treatment can be less vigorous.

Long hair should be removed with barium sulphide before the treatment is begun. The author has had very satisfactory results with the combination of these two methods.

THE COMPARATIVE MEASUREMENT OF THE ACTION OF ROENTGEN RAYS AND GAMMA RAYS. W. GERLICH, p. 2168.

The author warns against accepting the theoretical explanations of various authors who attempt to compare the strength of Roentgen rays and gamma rays. Too little is known of the way in which such rays act, and the means of measurement are too inaccurate to warrant comparison.

(*Ibidem*, Nov. 10, 1914, lxi, No. 45.)

SUPERINFECTION IN TABES DORSALIS. A. POEHLMAN, p. 2200.

A 63 year old patient infected 36 years previously, treated at the time with potassium iodide only, and not until 10 years after infection, with mercury, began, in 1913, to complain of difficulty in hearing and of cardiac dyspnoea. The Wassermann reaction was negative. In March, 1914, he was exposed to infection and soon afterward noticed a lesion on the prepuce, which, in a month after exposure, had become an indurated ulcer. The Wassermann reaction was positive with four antigens. Treatment with neosalvarsan and injections of mercurinol was followed by slow healing of the ulcer. Examination at this time shows sensory disturbances, loss of pain sense on the outer side of the left leg and loss of temperature sense on both legs, and from these findings a diagnosis of incipient tabes was made. The aortic sclerosis present may also be of syphilitic origin.

The author believes that his diagnosis of a superinfection is established by the development of the sore after a typical incubation period, and slowly developing induration, the slight secretion and the characteristic development of the Wassermann reaction. The failure to find spirochætae (by the India ink method) is characteristic of the superinfection, according to Neisser. The lack of enlarged inguinal glands is too common with ordinary primary lesions to have any weight against the diagnosis. Induration of a soft ulcer usually follows mechanical or chemical irritation and takes place at the borders of the ulcer, and the Wassermann reaction is not positive. Chancre redux occurs only in the induration of a recent chancre and, according to Fournier, is much larger than the original sore and yields promptly to treatment.

The pseudochancre described by Hutchinson and Fournier is a tertiary lesion and yields readily to treatment. The secondary late syphilides of Fournier are multiple, have more secretion, ulcerate late, show positive Wassermann early, contain plenty of spirochætae and are easily cleared up by treatment. The "chancriform" papule, the "early recurrence" of Bethmann, the "monorecidive" of Gennerich, the "pseudo-primary lesion" of Friboes and the "solitary secondary lesion" of Thalmann are all local recurrences after energetic treatment and usually after an attempted abortive treatment. The author feels justified in considering that his patient has been reinfected while still syphilitic, but while his immune bodies were very weak.

(*Ibidem*, Nov. 17, 1914, lxi, No. 46.)

CONCERNING ABORTIVE TREATMENT, FOCI OF SPIROCHÆTÆ, AND COMBINED TREATMENT OF SYPHILIS. W. LIEB, p. 2233.

Emphasis is laid upon the necessity, in attempting an abortive cure of syphilis, of excising, or where this is not possible, of cauterizing the initial lesion. To

support this statement the author reports several cases of local recurrences, primary after a few months, tertiary after 7 years of latency. He then describes a reinfection with the primary lesion on the lip, only four months after the abortive treatment of a genital infection.

An interesting case is cited of a patient whose chancre was excised in 1889, and careful observation every week, for a year afterward, showed no sign of syphilis. In 1897, after 8 years of latency, he developed a tertiary lesion on the back, and then an aortitis. As an exception he mentions Scherber's case, in which an excision of the primary lesion was followed by a cure, clinically and serologically perfect at the present time, 9 years after infection. This is an encouragement to those who are trying to abort the disease with the present much better means. He reminds them, however, that treatment ought to be continued beyond the time at which the patient is clinically and serologically free.

His technique of the abortive treatment now consists of several injections of some soluble salt of mercury, then a dose of neosalvarsan. This is repeated, and after the second neosalvarsan injection, a series of injections of mercury salicylate, about 20, interspersed with injections of neosalvarsan at intervals not greater than one week, are given, making altogether five or six neosalvarsan injections.

He reports 35 cases of abortive treatment over a year ago, some of them two years ago. These received the older, less energetic treatment, and only 10 of them have had clinical or serological recurrences. The other 25 are clear. About a third of these cases have been given provocative salvarsan injections, and only 2 showed thereafter weakly positive Wassermann tests. Excluding these, 71.4% of successes from a single course of treatment are obtained. All cases treated with mercury alone, during the same time, recurred.

The fear expressed by some, that abortive treatment may increase the danger of tabes and paresis, because these nervous manifestations are supposed to occur oftener in cases that have had very slight skin symptoms, he answers with the statement that this is purely a theoretical objection. Other statistics are available to prove that it is just in the severe luetics that tabes and paresis most often occur. He refers to the recent work of Leopold, who shows that the early involvement of the nervous system occurs oftenest in the cases with intense general involvement and marked symptoms. He notes also that among these so-called mild cases, the large macular syphilide occurs with noteworthy frequency. These are by no means to be classed as light cases, for the macules consist of little emboli of spirochætæ, associated with perivascular collections of the organisms, which have called forth only a slight œdema in the surrounding skin because of the lack of resistance of the host.

The argument that the cases that have received intensive treatment are oftenest afflicted with these late nervous involvements he answers with the claim that many, at least, of these cases have not really received the intensive treatment claimed for them.

In the treatment of secondary cases the author prefers the injection of 0.5 of a 10% suspension of salicylate of mercury twice a week, believing that the smaller injections cause less pain, are less apt to cause infiltrations and that, as Welauder says, the smaller injections are absorbed better and better excreted. Twenty of these are considered a series. The soluble injections are used only for the beginning of the treatment of cerebral lues, and for cases which, during a course of salicylate injections, develop a new crop of lesions, especially tonsillar papules, although the Wassermann reaction is often negative. A few injections of 2 or 3% sublimate or succinimide of mercury will give a prompt effect in most of these cases, which are not so very uncommon. Later, the treatment with the insoluble salts can be resumed with good effect. He seldom uses inunctions because of the difficulty of getting them well done. (*To be continued.*)

FURTHER CONTRIBUTION TO THE TREATMENT OF HYPERTRICHOSIS WITH ROENTGEN RAYS. D. CHILAMITI, p. 2236.

The author claims to have demonstrated that the hair roots are a third more sensitive to the action of Roentgen rays, two or three days after epilation, than they usually are. By giving an erythema dose of very "hard" light through three mm. of aluminum a few days after epilation, he claims to succeed, in most cases, in getting a permanent result without more than a slight erythema, lasting only a few days, or in the case of the most intense reaction, one or two weeks. He never saw moisture or vesicles.

The few hairs that have recurred three months after treatment can be easily removed by electrolysis. They are often resistant to X-rays. Lanugo hairs are also resistant, and the treatment is not adapted to their removal. Ten or 12 H., measured by the Holzkecht pastilles at full distance, are necessary for a slight reaction, and 15 to 18 H. for one of medium strength. These clear up much more rapidly than the same reaction to soft rays, and in 40 cases, some of them treated nearly three years ago, he has seen no lasting blemish as a result of the treatment.

(*Ibidem*, Nov. 24, 1914, lxi, No. 47.)

COMPLEMENT BINDING REACTION IN VARIOLA. A. KLEIN, p. 2270.

Surprise is expressed that more work has not been done in this line, for the reaction in variola was demonstrated in 1901, and was a forerunner of the Wassermann reaction. The author used as antigen a suspension, in normal salt solution, of the contents of the pustules, and later an emulsion of the crusts, and obtained 100% positive tests on 4 cases of variola, repeating the tests in two cases. Controls, consisting of 3 normal and 3 luetic sera, were all negative. The variola sera were negative to the Wassermann reaction. Controls made with the variola sera and antigens made from crusts of impetigo lesions, gave uniformly negative results. The positive variola reactions were strongly positive, while the negatives gave complete hæmolysis.

A 50% dilution of the variola antigen was placed in a water bath at 100° C. for ten minutes. The antigenic value was thus destroyed, which Klein considers a strong argument for the protozoön nature of the variola organisms, for bacterial antigens withstand such treatment.

The previous researches are tabulated. Of 11 series of tests by different workers, only 7 used antigen made from the pustules, and of these, all but one got consistently positive results. Klein is unable to explain the failure of this one worker, Moses, to get similar results. The infection experiments of von Prowazek and Aragao have shown how seldom the virus of smallpox is found in the internal organs and blood, and how strong an affinity it has for the skin, so that failure to get an active antigen from organ extracts is easily understood.

If further work, which has already been begun, shows that the serum reaction appears early in variola, it will be a great aid in the diagnosis of a disease which, like few others, often takes an abortive course and escapes detection.

THE THERAPY OF ERYSIPELAS WITH ANTI-DIPHThERIA SERUM. O. POLAK, p. 2273.

The author says that he tried the injection of antitoxic serum first in an apparently hopeless case of nearly general erysipelas in a three months old baby, given two injections at intervals of 24 hours. The size of the dose is given as Paltauf's No. 11. The baby was almost well in 48 hours. Since then he has used this treatment in nearly all his cases of uncomplicated erysipelas, and has received reports of the treatment in various other hospitals in Bohemia.

making altogether a total of 189 cases, of which 85% responded promptly to the treatment, by fall of temperature to normal, disappearance of the skin lesions and of the malaise. The first injection should be 3000 to 4000 units. This may have to be repeated in 24 hours.

No attempt is made to explain this result. The idea that it might be due to the horse serum was disproved by the use, in one case, of normal horse serum without result, while the case responded promptly to the antitoxic serum given afterward. Only uncomplicated cases of erysipelas are benefited, and these are not protected from recurrences.

CONCERNING ABORTIVE TREATMENT. FOCI OF SPIROCHÆTE.
AND COMBINED TREATMENT OF SYPHILIS. (*Conclusion.*)
W. LIER, p. 2276.

The report of the experience with neosalvarsan in the author's clinic (Prof. Ehrmann's clinic in the Allgemeine Krankenhaus in Vienna) is of great interest. In 3000 injections they have had no deaths or even serious reactions. Neosalvarsan is somewhat weaker in its action than old salvarsan; but because of the ease of administration and the consequent possibility of giving frequent small doses rather than a few large ones, it is used exclusively in their work. The freedom from reactions is ascribed to the fact that only exceptionally, in large, strong men, more than No. IV is given, and that an interval of a week is always allowed between doses. The drug is given in 10 cc. of freshly distilled water.

Intramuscular injection of the isotonic solution of neosalvarsan in distilled water has been given in 60 cases without a lasting infiltration resulting in any case. It can be recommended wherever great care to avoid a reaction is necessary and in the cases whose veins are inaccessible or unsuitable for the intravenous method. The contra-indications to salvarsan have been materially changed.

1. Catarrhal affections of the upper air passages, coryza, angina, and so-called influenza contra-indicate because of the danger of these conditions making an otherwise unimportant reaction very severe.

2. Uncompensated severe heart lesions.

3. Advanced arteriosclerosis. They do not like to give it to patients over 55 years of age.

4. Severe parenchymatous organic disease, true diabetes.

5. Some cases of inner ear trouble. When such a case needs salvarsan, care should be taken to avoid, as far as possible, the danger of a Herxheimer reaction by giving mercury first, followed cautiously by small doses of neosalvarsan.

Optic nerve lesions do not contra-indicate, neither do all cases of kidney disease. He cites two cases in which it was given with benefit.

Only two neuro-recidives were seen among the 3000 injections. They occur, like the solitary recurrent skin lesions, usually six or seven weeks after insufficient treatment, whether with salvarsan or mercury. Syphilis in the tuberculous can be treated to good advantage with salvarsan, for they stand it much better than mercury. The dosage must, of course, be especially cautious. So favorable is its action that it is being used in the treatment of tuberculous mucous membrane and skin lesions. The possibility of a local reaction like the Herxheimer reaction must always be kept in mind in reference to the tuberculous cases. No higher dosage than neosalvarsan No. III is given these cases. Secondary cases, especially in the early stage, are given energetic combined treatment. Four weeks after the first course a second is given, which can be a little less energetic. Most early cases are cleared up and apparently cured by two series of treatments; but recurrences must be watched for, and provocative

doses of neosalvarsan and lumbar puncture are recommended in addition to the usual examination.

Tertiary cases are treated along the same lines with good results. When the Wassermann remains positive after long continued treatment, in the absence of symptoms, especially on the part of the nervous or circulatory systems, the author does not feel justified in continuing treatment on the basis of this one symptom.

Paresis has not been treated; but tabes has been benefited by very slow, persistent combined treatment.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(May 13, 1915, xli, No. 20.)

Abstracted by CLARENCE ALLEN BAER, M.D.

A NEW METHOD OF ADMINISTRATION OF MERCURY IN THE TREATMENT OF SYPHILIS. JUL. FRANKENSTEIN, p. 590.

The author describes an instrument for the inhalation of mercury. This apparatus consists of a small stove vaporizer that allows vapors to pass into a spout which fits into the mouth.

ECTHYMA, A WAR DERMATOSIS. KROMAYER, p. 592.

Among the soldiers with skin diseases that were treated by Kromayer, about one-third had ecthyma. One soldier had 172 large ecthyma lesions. A course of strenuous cleansing followed by treatment with antiseptic powders and Roentgen rays is given.

(Apr. 29, 1915, xli, No. 18.)

THE FIGHT AGAINST PEDICULOSIS ON THE BATTLEFIELD. O. MELTZER, p. 532.

The author gives directions for disinfection of both clothing and person by the use of naftaline, anise oil, blue ointment, petroleum for use on individuals and steam sterilization of clothing.

(*Ibidem*, May 6, 1915, xli, No. 19.)

INFECTION AND IMMUNITY LAWS IN MATERNAL AND FŒTAL SYPHILIS. J. TRINCHESE, p. 555.

The author concludes from various data he has collected that:

First, Colles' law is not infallible, that is, immunizing of the mother from the fœtus is impossible because (a) a paternal transference of syphilis does not occur, and (b) the fœtus does not show any immunizing substances.

Second, Profeta's law is not infallible, that is, an immunization of the fœtus from the mother does not occur because the placenta wall does not allow the passage of reaction substances from the maternal organism.

Third, The earlier the fœtus is infected, the quicker the syphilis develops, as a sepsis that leads to the death of the fœtus within six months.

Fourth, Until nearly the eighth month the fœtus does not build any reaction substances, that is, its blood reacts negatively to the Wassermann test in spite of a positive Wassermann in the mother, and the presence of numerous spirochæta collections in all its tissues.

Fifth, In the last months of pregnancy the fœtus begins to defend itself against manufacturing the syphilitic poison, that is, reacts positively towards the Wassermann test.

Sixth, If the infection of the child occurs in the last weeks before birth, clinical syphilitic symptoms might be entirely lacking and the Wassermann reaction negative because the incubation time for both phenomena is too short. These children were formerly considered as immune but they are the ones that later are the children with late syphilitic manifestations.

Seventh, If a syphilitic mother give birth to a healthy child, the absence of clinical syphilitic symptoms and the negative Wassermann are not positive proof that the child is healthy.

Eighth, The following possibilities might occur at the birth of a child of a syphilitic mother; *a*, the child is clinically free of syphilis and has a negative Wassermann reaction; *b*, the child is clinically free of syphilis and has a positive Wassermann reaction; *c*, the child has clinical signs of syphilis and a positive Wassermann reaction; *d*, the child has clinical signs of syphilis and a negative Wassermann reaction. These four possibilities are arranged in the order unfavorable for the prognosis of the life of the child, so that the fourth possibility inevitably means death of the infant.

MISTAKEN DIAGNOSIS OF CEREBROSPINAL SYPHILIS IN AN INFANT. H. ZONDEK, p. 558.

The author gives a history in detail, with antisymphilitic treatment, of a child one year old, without any improvement in the condition and subsequent death of the child. The Wassermann reaction had been positive, and principally on this and an increase of lymphocytosis in the cerebrospinal fluid, the diagnosis of syphilis was made.

Zondek considers this a mistaken diagnosis and explains it as follows: The case was one of softening of the entire right frontal part of the brain with thrombosis of the longitudinal and transverse sinuses, thrombosis also of both fossæ Sylvii, in a child a year old. There was no change in the walls of the blood vessels, especially no endarteritis. On the other hand, there were present external hydrocephalus (this probably is explained by the thrombosis of the sinuses). There was no syphilis in spite of the positive Wassermann reaction, lymphocytoses in the cerebrospinal fluid, double neuroretinitis and choked disc in one eye. Explanations are as follows: Positive Wassermann reaction occurred by the flooding of the blood with lipoides from the necrotic brain substance, lymphocytosis by the meningeal irritation, choked disc by the increased intracranial pressure. The extension of the neuroretinitis is not clear. There was no improvement of the condition under antisymphilitic treatment.

ANNALES DES MALADIES VÉNÉRIENNES.

(April, 1914, ix, No. 4.)

Abstracted by PAUL E. BECHET, M.D.

NEOSALVARSAN AND DISTILLED WATER. RICHARD and GASTALDI, p. 241.

Richard and Gastaldi state that Emery attributed the accidents following injections of neosalvarsan to the presence of lead in solution, derived from the distilling apparatus. Through experimentation and a number of analyses, they entirely disprove this assertion. They incline to the view that the accidents

are due to the neosalvarsan, and that distilled water does not play an important rôle in their causation.

TWO CASES OF SUBOCCIPITAL VERTEBRAL SYPHILIS. GAUCHER and BORY, p. 246.

Gaucher and Bory state that this condition almost invariably either follows, or appears simultaneously with, symptoms of bone syphilis elsewhere. Bone syphilis in the adult rarely causes any alteration in the general health; but in children, particularly heredo-syphilitics, it is frequently accompanied by a state of malnutrition which would readily pass for tuberculosis. These unfortunates being sent to the seashore, are overfed, etc., with of course very little success. One should remember this type of pseudo-tuberculous heredo-syphilis, when confronted with cases of Pott's disease.

RUSSKI JOORNAL KOJNIKH E VENERICHESKIKH BOLEZNEI.

(May, 1914, xxvii, No. 5.)

Abstracted by M. L. RAVITCH, M.D.

THE CAUSATION OF PARAPSORIASIS. G. SUTEYEV, p. 413.

Brocq, in 1902, and his pupil, Civatte, in 1906, taught that parapsoriasis occupied a middle position between psoriasis and lichen planus on one side and seborrhœic affection of the skin on the other side. Brocq studied these parapsoriatic affections and grouped them as follows: 1, parapsoriasis en gouttes—a form similar to psoriasis; 2, parapsoriasis lichenoides,—a form of disease giving certain characteristics of both lichen planus and psoriasis; 3, parapsoriasis en plaques,—a form simulating eczema seborrhœicum. The last form was described by Brocq as erythrodermie pityriasque en plaques disseminées.

These three forms have the following characteristics: slow process of development, absence of pruritus, and resistance to treatment. As to the ætiology of this affection, Civatte claims that in two cases the symptoms were identical with pityriasis lichenoides chronica, and he also found, in the upper layer of the corium, a tuberculous granuloma, and hence he traces a relationship between parapsoriasis and tuberculosis.

Suteyev states that Millian, Darier, Pinard, Verotti and others share the same view. Brocq's views, according to Suteyev, were criticized by Arndt, Rille, Charles White, Rieke and others. Arndt, in particular, did not agree with Brocq's classification, and renames parapsoriasis en gouttes dermatitis nodularis psoriasiformis *sive* pityriasis lichenoides chronica. For Brocq's parapsoriasis lichenoides, he substitutes parakeratosis variegata s. lichen variegatus, and for parapsoriasis en plaques,—erythrodermie pityriasque en plaques disseminées.

Suteyev cites a case of parapsoriasis, in which the von Pirquet test gave a positive reaction. No treatment was found beneficial in this case, though Herxheimer and Koester report success with subcutaneous injections of pilocarpine in 0.01 gram doses. Zelenev and Pospelov tried this method of treatment in parapsoriasis and psoriasis, but found it wanting.

THE CAUSATION OF "WHITE" DERMOGRAPHIA. TROITZKI, p. 432.

Troitzki cites Areshev's case. The patient, a soldier, was an onanist. Internal and genital organs were normal. In regard to nervous manifestations, the author

noticed there was an increase of tendon reflexes, particularly on the patella and a lowering of skin reflexes, particularly on the chest; a pin prick was felt more on the spine than on the chest. On rubbing the handle of the percussion hammer over the chest and abdomen, there appeared a white strip which turned red in a few minutes, afterwards changing again to white, and remaining in this state for two hours. On the back, the skin manifested the same phenomenon, except that the white strip remained for three or four hours. The author thinks that this dermographia is due to disarrangement in the innervation of the circulatory system, which he inherited from his father, also an onanist.

HERPES ZOSTER DURING AND AFTER PREGNANCY. ANUFRIEV, p. 432.

Anufriev's case, cited by Troitzki, is quite interesting since the eruption lasted during and after pregnancy, on the mid-abdomen. The herpes was of a dark-brown color, running in two parallel lines; each line had a coalescent form (*herpes zoster bullosus hæmorrhagicus*) of blisters. Headaches and slight rise of temperature were noticed, and the patient complained of pain on the left side. Quinine and application of tale and starch reduced the temperature to normal. On the ninth day after confinement, the patient still had the eruption. The author agrees with Neisser that during pregnancy, on account of the changes in the functions of the ovaries, the peculiar condition of the blood, and the changes in the general nourishment, there might be caused different dermatoses, particularly in women with a low vitality, in whom a tender and susceptible skin proves to be the *locus minoris resistentiæ*.

PURPURA IN HOSPITAL CHILDREN. ARTAMANOV, p. 438.

According to Troitzki, Artamanov does not believe in such a classification as purpura simplex, hæmorrhagica, abdominalis, rheumatica and fulminaris. Such classification was permissible during Henoch's time, but at present it would not be justified, as clinically the forms of this disease cannot be scientifically and definitely classed. Externally is found: anæmia, ecchymosis of the extremities, face, abdomen and spine, and in some cases, extravasation of blood in different forms and amounts. Microscopically, he found ectasia of the capillaries with small round cell infiltrations around their walls. In 61 cases, 27 were in girls and 34 in boys. In spring and winter the percentage of cases was greater than in autumn. The majority of cases, the anamnesis indicates, had measles (41 cases); one-fifth had whooping cough, 11 cases pneumonia, 7 cases hæmophilia and 15 tuberculosis. According to the author, the ætiology of purpura may be traced to a certain toxine in the organism, arising from biological, chemical or physiological causes.

A CASE OF BROMODERMA. GERSHUN, p. 440.

After reviewing the literature in regard to bromoderma, Troitzki cites Gershun's case. The patient, aged 16 years, epileptic, took heavy doses of bromide for two months, intermittently. An eruption followed, appearing on the upper and lower extremities and more thickly on the latter than on the former. The pustules varied in size from a pea to a walnut. The space between them was smooth and normal. On the right side, in one place, the pustules became confluent, growing the size of the palm of the hand. In some places superficial ulceration, with subsequent scab formation, took place, and in others regular plaques were formed. After discontinuance of the bromides, the eruption gradually faded, though the plaques were very slow in disappearing.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(April, 1915, cxlix, No. 4.)

Abstracted by R. C. JAMIESON, M.D.

ACRODERMATITIS CHRONICA ATROPHICANS: ITS SYMPTOMATOLOGY AND DIAGNOSIS. FRED WISE and E. J. SNYDER, p. 508.

The authors give a very complete review of the literature and description of this disease and a case under observation, and consider the chief points in the diagnosis to be the changes beginning on the backs of the hands and feet, gradually extending upward to the elbows and knees; the inflammatory and infiltrative changes, with resulting atrophy of the cigarette paper type; the so-called "ulnar band," consisting of a strip of inflamed skin over the ulna, extending from the wrist to the elbow; the area of skin relatively immune to the disease, just below Poupart's ligament, at the inner angle of the pubes and thighs.

All symptoms are variable and in the early stages difficult to recognize. Sections showed atrophy and fibrosis, all layers of the skin showing changes from hyperkeratosis to degeneration, with loss of interpapillary pegs. The blood vessels showed endothelial proliferation and there was an absence of elastic tissue, hair follicles and sebaceous glands, the chief changes, however, affecting the elastic tissues. The true nature of the scleroderma-like areas is not yet fully determined.

The ætiology is not definitely known; the prognosis is good as to its effect on the patient's life. Palliative and symptomatic treatment is all that can be done to relieve the condition.

ARCHIVES OF INTERNAL MEDICINE.

(April, 1915, xv, No. 4.)

Abstracted by R. C. JAMIESON, M.D.

A DIFFERENTIAL STUDY OF COCCIDIOIDAL GRANULOMA AND BLASTOMYCOSIS. P. K. BROWN and W. T. CUMMINS, p. 608.

Brown and Cummins discuss the reports of various authors on the question of blastomyces and coccidioides and give in detail their experiments with animals, from which they conclude that there are distinct differences in the pathogenicity of the two diseases. Coccidioidal granuloma is nearly always fatal, blastomycosis is not generally so, except in systemic cases; coccidioidal disease affects the lymphatic system more than blastomycosis and any cutaneous lesions are more apt to ulcerate; iodides have no effect on coccidioidal granuloma but have cured or benefited many blastomycosis patients.

Morphologically, one has endosporulation, the other budding, coccidioides growing best and more rapidly at 37° C., blastomyces at 20° C. Rabbits and guinea pigs resist blastomycosis more than coccidioidal infection.

They consider these facts sufficient to justify the conclusion that these diseases are different and distinct.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(Mar. 20, 1915, lxiv, No. 12.)

Abstracted by WM. H. BAUGHMAN, M.D.

PRICKLE-CELL AND BASAL-CELL SKIN CANCERS. H. H. HAZEN, p. 958.

The precancerous lesions of these two neoplasms usually differ in their nature. Some basal-cell growths have a multicentric origin, while the prickle-cell tumors are believed to have a single point of origin. The most frequent locations of the former are the face, neck and scalp; the latter are usually found on the mucous membranes and extremities, but may occur anywhere on the skin.

In the early stages, the two growths cannot be differentiated microscopically, though the history and location may be of value. The prickle-cell cancer grows more rapidly and the induration extends deeper, the surface is often verrucose; the basal-cell variety is usually smooth, with a rolled edge and individual pearly nodules. Basal-cell growths never metastasize, the prickle-cell cancers usually involve the regional lymphatics.

The cut surface of a prickle-cell cancer is rougher, the infiltration is deeper, and the cancerous alveoli are larger than in the basal-cell cancer. Microscopically, the alveoli of the prickle-cell variety are larger, there is a tendency to whorl formation which is never seen in the basal-cell growth, and the individual cells are larger and stain more intensely with acid stains; in the basal-cell variety, the cells are smaller and stain with basic rather than acid stains.

The prognosis is better in cases of basal-cell tumors than in prickle-cell tumors. Complete surgical removal, with the regional glands in the prickle-cell tumors, is the best treatment; the Roentgen ray being reserved for inoperable cases or where surgical removal would result in too great deformity.

PREVALENCE OF SYPHILIS AMONG THE INMATES OF THE GOVERNMENT HOSPITAL FOR THE INSANE. E. B. VEDDER and W. H. HORTON, p. 972.

THE VALUE OF THE WASSERMANN REACTION, WITH A DISCUSSION OF THE TREATMENT OF SYPHILIS OF THE NERVOUS SYSTEM. T. H. WEISENBURG, p. 975.

The Wassermann reaction should be regarded as a symptom helping in the diagnosis of a case, but not as a principal factor. Uniformity of results can be obtained only by the use of the same type of reagents and the same technique. The syphilitic virus may act on the nervous system either through the blood stream or by means of the perineural lymph spaces. Early recognition of involvement of the nervous system is important. The clinical symptoms indicate only the site, not the nature and extent of the lesion. A study of the cerebrospinal fluid in these cases is of more importance than that of the blood serum. Salvarsan and mercury are depended upon in treatment, potassium iodide being considered of no value.

INVOLVEMENT OF THE NERVOUS SYSTEM DURING THE PRIMARY STAGE OF SYPHILIS. UEO J. WILE and J. H. STOKES, p. 979.

The investigation of six cases by the authors points to involvement of the nervous system previous to the appearance of frank cutaneous or systemic signs, of the hematogenous spread of spirochætæ from the initial lesion.

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(*Ibidem*, Mar. 27, 1915, lxiv, No. 13.)

AN UNUSUAL CLINICAL VARIETY OF LICHEN PLANUS (LICHEN PLANUS HYPERTROPHICUS RETIFORMIS). R. L. SUTTON, p. 1065.

(*Ibidem*, Apr. 3, 1915, lxiv, No. 14.)

HEREDITARY SYPHILIS IN CONNECTION WITH CLINICAL PSYCHOLOGY AND PSYCHOPATHOLOGY. J. V. HABERMAN, p. 1141.

An interesting and valuable lecture, showing the relation between many psychopathological conditions of childhood and hereditary syphilis. These luetic stigmata should not be confused with the stigmata of degeneracy due to other causes, though syphilis may be one of the causes of inherited degeneracy.

(*Ibidem*, Apr. 10, 1915, lxiv, No. 15.)

WHAT IS THE PRESENT STATUS OF AUTOSERUM IN SKIN DISEASES? M. L. RAVITCH, p. 1228.

After using autoserum in a variety of cases, Ravitch concludes that this form of therapy will prove to be another "therapeutic fiasco." He finds its usefulness to be limited to a very few selected cases only.

TRICHOTILLOMANIA. J. C. MARTIN, p. 1236.
Case report.

BOOK REVIEWS.

MEDICAL ELECTRICITY AND ROENTGEN RAYS. By SINCLAIR TOUSEY, A.M., M.D. Consulting Surgeon to St. Bartholomew's Clinic, New York City. Second Edition, Octavo, 1219 pages and 798 illustrations, 16 in colors. W. B. Saunders Company. Cloth, \$7.50 net.

The growing importance, to dermatologists, of the therapeutic measures discussed in Tousey's book is generally acknowledged. Electrolysis, ionization (cataphoresis), fulguration, ultra-violet light, X-rays and radium are all considered and a great deal of information is crowded into the 1200 pages. At the same time, it would be unsafe for a beginner to epilate a child's scalp for ringworm with only the knowledge to be gleaned from the two pages devoted to that subject. And in the treatment of eczema, the use of three or four H units of X-rays in a single application would not find many supporters. The rather disconnected arrangement of topics is regrettable, but a 52-page index is somewhat compensatory.

C. G.

LEPROSY IN SARDINIA. By PIO COLOMBINI and ALBERTO SERRA. Communication to the International Conference on Leprosy. Cagliari, 1912.

This work consists of a fine volume of 200 pages, with many clinical illustrations of leprosy in different stages, and with a geographical map. The map shows the local active foci of infection, new foci from emigration, and places

which once were infected with lepra, and to-day are entirely free. Other places are marked as entirely immune having never had cases of this disease.

The credit of having begun an investigation in the Island to ascertain the number of lepers there is due to Mazza, who in 1896, by visiting every little community, and by sending circulars to the physicians, was able to find many cases of leprosy which had been entirely ignored until then.

A country physician, Dr. De Lorenzo, without knowing of the studies of Mazza, had published a case which he called the first case of leprosy reported in Sardinia. It was a case of the mixed type, anæsthetica and mutilans, in a woman. Nobody else in her family nor in the village had ever had the disease, and she was living 26 years in that condition. Brothers and sisters living in the same house with her have never shown signs of the malady.

The studies were continued by Mantegazza in 1901 and 1902, and in 17 communities he found 43 lepers, 22 men and 21 women, and obtained knowledge of 29 cases dead in the last twenty years,—15 men and 14 women. Some had lived for 40 and 50 years affected with lepra, which seemed more benign in the tuberoso form.

Most of the lepers belonged to the poorer classes, but cases were found also in individuals in good financial condition. No important deductions were obtained from the climatic and telluric conditions, only it was found that most of the cases were near the coast rather than in the mountains or in the interior.

Mantegazza stated that he could not find any arguments to prove the heredity of lepra, but he had some proofs in favor of its contagiousness. The transmission of the disease through the mucus of the nose is possible, as in every case bacilli are present, but the authors maintain that in most of the cases the bacilli have entered the organism through excoriations on the toes and feet, as most of them had always gone barefooted.

Dr. Ciuffo in 1903 reported 5 cases of leprosy, 3 in one family.

From the studies of the above mentioned physicians the total number of lepers distributed in 18 towns of Sardinia would be 49—25 men and 24 women. The authors state that the lepers in 20 communities in Sardinia are 50—30 men, and 20 women. Of every patient the authors have submitted the clinical history, clinical illustrations and pathological studies.

The book is completed by important conclusions derived from all these observations, on the possible ætiology of the disease. The authors discredit the theory of fish eating as most of the patients had never, or only rarely, eaten fish. In reference to heredity, the authors have found great mortality amongst the feeble and sickly children from leprous parents. In 50 families infected with leprosy, the disease was observed only in 5 children, 3 from maternal origin, 2 from the father. Very little can be said with reference to heredity as it was found among distant relatives, where the contagion, more than the heredity, would be of some importance. Germinal hereditary infection could be maintained only in the 5 cases, 2 of which came from the mesonephron and thence from placental alterations, allowing the passage of the lepra bacilli to the fœtus.

The authors are more inclined to admit the contagiousness of leprosy, as in some families one of the members had been affected with lepra after living some years with other brothers, and in one the father, who had been declared healthy, was afterwards affected with lepra, showing the influence of contact. The authors believe in the possible transmission of the lepra bacillus through the nasal cavities, but they give great importance to the entrance of the lepra bacillus through little excoriations of the skin of the hands and feet, placed in contact with leprous materials, which may have fallen from the nose, or from the ulcers of the sufferers, or with soiled clothes. The presence of the initial lesions of leprosy on the hands and on the feet of many lepers in the province of Oristano, Sardinia, is a good hint as to the possibility of the spreading of the contagion through the secretions or excretions of the infected. In 14 patients it was im-

possible to establish any local initial manifestation, but all averred that the disease developed in an acute way with general malaise, headache, fever, and with diffuse erythematous spots on the face and limbs. The erythematous eruptions disappeared and reappeared as long as the disease kept on in an acute form, until the patients noticed the characteristic nodular eruption, or the nervous phenomena.

In 3 cases the onset of the general leprous manifestations followed a trauma or child birth. In the cases of nervous lepra, the disease began with feeling of cold, itching, paræsthesia of the hands and feet, shooting pains. After various lapses of time, from months to years, trophic disturbances, anæsthesia, bullous eruptions, perforating ulcers, flexion of the fingers and falling of the phalanges followed. In many cases the last symptoms appeared from 5 to 10 and 15 to 20 years after the initial symptoms.

In reference to the diagnosis the authors give a very good clinical description of the different symptoms and the regions affected. They speak of the evolution of leprosy and insist on the presence of an initial lesion, which is afterwards followed by general symptoms. When the lepromata have healed, recovery may seem imminent, but the authors have found in the cicatrix of those lesions, large quantities of bacilli. They have observed periods of remission from 5 to 14 years, so much so that the patient was considered cured. But after so long a period, nervous symptoms reappeared and the lepra became of the mixed type, nodular and nervous.

The prophylaxis is very well discussed and is based on the contagiousness of leprosy. The necessity for leprosaria and for strict laws of isolation is emphasized. As to the treatment, the authors have used the oil of chaulmoogra, 300 drops per day, by the mouth. Lepromata have been treated by surgical means. They have had autogenous vaccines prepared from young lepromata, but as the patient to whom this was administered had taken oil of chaulmoogra, they do not want to attribute to it too much importance in the improvement of the patient.

A. R.

NEWS ITEMS.

A NEW SOCIETY.

On May 6, 1915, at a meeting of physicians from various New England cities held at the Massachusetts General Hospital, there was formed The New England Society of Dermatology and Syphilis. The following officers were elected: Dr. Abner Post, President; Dr. Townsend W. Thorndike, Vice-President; Dr. Charles J. White, Secretary. Boston was chosen as the meeting-place of the Society. It is proposed to hold four meetings each winter between the months of October and May at some hospital, and to make the clinical exhibition and demonstration of cases a prominent feature of each meeting. The success of the clinical session has already been assured by the heads of the departments for dermatology and syphilis in several hospitals, who have promised the use of the combined material of their several clinics for these sessions. The declared object of the Society is to promote the interests of dermatology and syphilis throughout New England. The meeting recognized the fact, that while the number of specialists has steadily grown larger, the general medical public has also given many signs of increasing interest in these subjects. It was felt, therefore, that the Society would best fulfil its purpose by including both classes in its membership and, accordingly, has opened its membership to all reputable physicians practising in New England.

On these foundations the Society asks the support and coöperation of the profession at large. Applications for membership may be sent to Dr. Charles J. White, Secretary, 259 Marlborough Street, Boston.

MEETING OF THE AMERICAN MEDICAL ASSOCIATION IN SAN FRANCISCO.

DERMATOLOGICAL SECTION.

The recent meeting of the Dermatological Section of the American Medical Association in San Francisco was declared by those present to have been a decided success. Dr. Howard Fox was Chairman, Dr. A. Ravogli, Vice-Chairman, and Dr. H. H. Hazen, Secretary of the Section. A symposium on leprosy was submitted by Drs. Douglas Montgomery, A. A. O'Neill, Howard Morrow, and Ernest Dwight Chipman, and in connection with his paper on the symptomatology of the disease, Dr. Morrow gave a demonstration of a dozen cases of leprosy. Independent papers were also read by the Chairman and by Drs. Joseph Zeisler, A. Ravogli, Richard L. Sutton, George D. Culver, Oliver S. Ormsby, A. J. Markley, J. B. Kessler, H. H. Hazen, George M. MacKee and Everett S. Lain. There was also a demonstration by Dr. Harry E. Alderson of cases from the Medical Department of the Leland Stanford University. The visiting members of the Section were treated with the greatest hospitality by the San Francisco dermatologists, including Dr. Morrow, the newly appointed Chairman, and Drs. Montgomery, Alderson, Chipman, Culver and Schmitt, and were given a dinner at the University Club. On the return trip from California, Drs. Hazen, MacKee and Fox travelled in a special car for physicians and their families, and were again hospitably entertained at Portland and Seattle by local committees of physicians, who put their automobiles at the disposal of the party. The journey from Seattle to New York was broken by a five days' visit to the Glacier National Park in Montana, and a stop at Rochester, Minnesota, to see the Mayo Clinic.

ENDOWMENT OF THE BARNARD FREE SKIN AND CANCER HOSPITAL.

The income from an estate of \$2,000,000 has been left to the Barnard Free Skin and Cancer Hospital of St. Louis, by the will of the late George D. Barnard, who died on May 29, 1915.

At present, the Barnard Free Skin and Cancer Hospital has an endowment, besides this, of over \$300,000. This will give the institution an annual income of from \$100,000 to \$150,000, making it independent and thoroughly equipped financially to do its allotted work.

OFFICIAL APPOINTMENTS.

DR. SIGMUND POLLITZER has resigned his position as Professor of Dermatology at the New York Post Graduate Medical School and Hospital.

DR. A. SCHUYLER CLARK has recently been appointed Professor of Dermatology at the New York Post Graduate Medical School and Hospital to fill the vacancy caused by the death of Dr. William Bedford Brown.

DR. H. H. HAZEN, Washington, D. C., desires a first assistant for clinical and teaching purposes at the Georgetown and Howard Universities, where there are excellent clinical and laboratory facilities.

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SPINO-CELLED CANCERS OF THE SKIN.*

By H. H. HAZEN, M.D., Washington.

Professor of Dermatology, Medical Department of Georgetown University; Professor of Dermatology, Medical Department of Howard University.

THIS paper does not purport to be an exhaustive review of the subject of spino-celled cancer, but is simply a summary of 60 cases from the Surgical Pathological Department of the Johns Hopkins Hospital. All of the material from this department could not be utilized, for in many instances tissue had been sent in by out-of-town physicians, and the notes were very incomplete. I have simply selected the 60 cases in which the notes were complete enough to be of some value, and where the histopathological diagnosis was assured. At this point I desire to express my obligations to Dr. Joseph Colt Bloodgood, who placed all of his material at my disposal.

Spino-celled tumors are also called prickle celled or squamous celled. Important articles concerning them have been published by Borst, Bloodgood, Franz, Borrmann, Von Brunn, Steiner, McGlannan, Howard Fox, Volkmann and myself. A spino-celled cancer is one that originates in the prickle or squamous cells of the skin or mucous surfaces. When examined in the gross it is noted that the surface is usually rough and verrucose, that the infiltration is deep, and that the cancerous alveoli radiate downward in the form of white lines, about the size of a fine thread. Histologically, the cells are large, usually form whorls, and often true epithelial pearls. The cancerous alveoli are large. The cells usually take an acid stain better than a basic stain.

There is one special variety of spino-celled cancer that must be

* Read before the 39th Annual Meeting of the American Dermatological Association, New York City, May 13-15, 1915.

noted, namely, the malignant wart. This form of neoplasm may affect either the skin or the mucous surfaces. It always first appears as a warty growth, that develops rather slowly. It has a tendency toward being pedunculated, and there is no true cancerous infiltration at the base. If there be any infiltration present it is usually inflammatory and not malignant. These growths do not metastasize unless they are much irritated or incompletely removed. In the following set of statistics, five and probably six of the cases were of this nature, so the statistics as regards ultimate recovery are higher than if only the infiltrating type of cancer were considered.

In order to show the tendency toward the formation of metastases, I have arranged parallel columns, one to show under what circumstances the primary growth developed, and the other to show under what circumstances metastasis took place. The total number of cases was 60.

MALES.	FEMALES.	MALES WITH METASTASES.	FEMALES WITH METASTASES.
49	11	20	3

The age distribution was as follows:

AGE OF PATIENT.	TOTAL CASES.	METASTATIC CASES.
30-39 years	7 cases.....	2 cases
40-49 years	15 "	7 "
50-59 years	7 "	1 case
60-69 years	13 "	7 cases
70-79 years	9 "	2 "
80-89 years	3 "	1 case
Ages not given	6 "	3 cases

While these cases are not sufficient in number to enable one to draw any absolutely safe deductions, yet it seems certain that the young patients do not do any worse than do the older ones.

According to the location of the primary neoplasm, we have the following figures:

	TOTAL CASES.	METASTATIC CASES.
Finger	4 cases.....	2 cases
Hand	11 "	1 case
Wrist	2 "	1 "
Forearm	2 "	0 cases
Elbow	2 "	1 case
Upper arm	3 "	1 "
Foot	2 "	1 "
Ankle	3 "	0 cases
Leg	6 "	1 case
Knee	2 "	1 "
Thigh	3 "	1 "

PATH. No.	SEX	AGE	LOCATION OF LESION	DURATION OF LESION	PRECANCEROUS LESION		
					NATURE	DURATION	PREVIOUS
14668	F.	69	Forehead	2 mos.	Scratch	?	None
10866	M.	44	Scalp	1 yr.	Burn	8 yrs.	?
5540	M.	68	Neck	1 mo.	Arsenic	?	?
7598	M.	?	Neck	?	?	?	?
9917	M.	?	Neck	6 yrs.?	?	?	?
2204	F.	35	Forearm	1 yr.	Burn	17 yrs.	?
1013	F.	48	Finger	10 mos.	Ulcer	6 mos.	Excised
5222	F.	56	Finger	1 yr.	Ulcer	8 mos.	?
1323	M.	76	Finger	1½ yrs.	Wart	?	Caustic
1481	M.	72	Hand, wrist	5 yrs.	Wart	?	?
2534	M.	66	Hand	2½ yrs.	Wart	?	?
2643	M.	66	Arm	?	Scar of trauma	?	?
2887	M.	61	Elbow	?	Burn	?	?
4281	M.	54	Arm	9 mos.	Burn	?	Caustic
4961	M.	68	Hand	?	Senile keratosis	4 yrs	Excision
6217	M.	44	Elbow	11 mos.	Burn	40 yrs.	?
6374	M.	70	Hand	6 weeks	"Pimple"	6 weeks	Caustic
6691	M.	?	Arm	?	?	?	?
8328	M.	47	Hand	7 mos.	"Pimple"	6 mos.?	?
8501	M.	?	Hand	?	Wart	?	?
9392	M.	75	Wrist	2 yrs.	Wart	1 yr.?	?
9423	M.	74	Hand	2 yrs.	Senile keratosis	2 yrs.	?
10748	M.	85	Hand	3 yrs.	?	?	?
15614	M.	?	Thigh	?	X-ray ulcer	?	?
16429	M.	44	Leg	3 mos.	Scar of trauma	30 yrs.	?
8434	F.	35	Leg	3 mos	Blastomycosis	1 yr.	?
8685	M.	59	Ankle	?	Wart	2 yrs.	?
1683	M.	38	Leg	1 mo.	Burn	15 yrs.	?
825	M.	54	Ankle	3 yrs.	Scar of trauma	33 yrs.	?
1673	M.	45	Leg	1 mo.	Scar of trauma	30 yrs.	?
2989	M.	45	Ankle	2 yrs	Scar of trauma	30 yrs.	?
5005	M.	47	Knee	5 mos.	Burn	7 yrs.	?
7043	M.	65	Foot	3 mos.	"Pimple"	7 yrs.	?
7102	F.	40	Knee	1 mo.	Burn	29 yrs.	?
8341	M.	42	Thigh	3 mos.	Scar of trauma	17 yrs.	?
9986	M.	36	Leg	?	Bone sinus	35 yrs.	Bone re
10467	M.	35	Thigh	5 yrs.	Burn	32 yrs.	?
92	M.	44	Foot	6 mos.	"Pimple"	6 mos.	Opened
8685	M.	59	Leg	?	Wart	2 yrs.	?
4485	M.	52	Chest wall	?	?	?	?
5200	M.	?	Scrotum	?	?	?	?
5985	M.	46	Shoulder and leg	3 mos.	Arsenic keratosis	2 yrs.	X-ray
9763	M.	84	Groin	?	Wart	4 yrs.	?
14163	M.	33	Back	?	Lupus vulgaris	4 yrs.	X-ray
6248	M.	46	Chest	4 yrs.	Wart	4 yrs.	Excise
8072	F.	78	Scalp	8 weeks	"Pimple"	?	Ointme
7689	M.	50	Forehead	?	?	?	?
6672	M.	32	Scalp	1 yr.	Scar of burn	?	Causti
6432	M.	75	Forehead	14 mos.	?	?	X-ray
14142	F.	65	Forehead	?	Senile keratosis	2 yrs.	?
13595	M.	62	Forehead	?	Senile keratosis	2½ yrs.	Causti
12355	F.	44	Forehead	?	Ulcer	15 yrs	?
9090	M.	77	Forehead	?	?	20 yrs.	?
57a	M.	89	Forehead	?	Burn	?	Causti
15673	M.	44	Finger	Brief	X-ray ulcer	6 mos.	?

The following cases are prickle celled warts, not true prickle cells

236	M.	64	Wrist	?	Wart	3 yrs.	Excise
932	M.	70	Forearm	2 yrs.	Wart	3 yrs.	Excise
983	M.	65	Hand	?	Wart	3 yrs.	Causti
9955	F.	65	Hand	6 mos.	Wart	6 mos.	None
10272	F.	69	Hand	8 mos.	Wart	?	?

CHART.

OPERATION	GLANDS	RECURRENCE	FINAL RESULT
Excision	Not removed	?	Lost sight of
Excision	Not removed	Yes, glands	Death
Excision	Not removed	Yes, viscera	Death
Excision	Not removed	Yes, glands	Cure after 2d operation
Excision	Not removed	?	Lost sight of
Amputation of arm	Not removed	?	Lost sight of
Excision	Not removed	?	Lost sight of
Amputation of finger	Not removed	?	Well 2 yrs., then lost
Amputation of finger	Not removed	8 mos. glands	Died 18 mos. later
Amputation of arm	Not removed	?	Well 2 yrs., then lost
Excision	Not removed	2 yrs. glands	Died in 3 yrs.
Amputation of arm	Removed, already invol.	Yes, glands	Died shortly
Amputation of arm	Not removed	?	Lost sight of
Excision	Not removed	None	Cured
Excision	Not removed	None	Well 8 yrs.
Amputation of arm	Removed, involved	Yes	Died in 6 mos.
Excision	Not removed	?	Died pneumonia, 3 yrs.
Amputation	Not removed	?	Lost sight of
Excision	Removed	None	Well 6 yrs.
Excision	Not removed	?	Lost sight of
Excision	Not removed	?	Lost sight of
Amputation	Not removed	?	Lost sight of
Excision	Not removed	?	Lost sight of
Excision	Not removed	9 mos. glands	?
Amputation	Not removed	?	Lost sight of
Excision	Not removed	None	Well 4 yrs.
Excision	Not removed	?	Lost sight of
Excision	Not removed	6 mos. local, glands	Died in 2 yrs.
Excision	Not removed	None	Well 9 yrs.
Excision	Not removed	None	Well 7 yrs.
Amputation	Not removed	?	Lost sight of
Excised	Removed	None	Well 9 yrs.
Excised	Not removed	Yes, glands	Death in 5 yrs.
Amputation	Removed, involved	Prompt, glands	Death in 5 mos. Hopeless case
Excised	Not removed	None	Well 5 yrs.
Amputation	Removed	?	Lost sight of
Amputation	Not removed	?	Well 2½ yrs.
Excised	Not removed	None	Well 7 yrs.
Excised	Not removed	?	Lost sight of
Excised	Not removed	2½ yrs. glands of neck	Death
Excised	Not removed	Local and glands	?
Excised	Removed in neck	Prompt in glands	?
Excised	Removed	None	Well 4 yrs.
Excised	Not removed	3 mos. glands	Death
Excised	Not removed	1 yr. glands	Death
Excised	Not removed	None	Well
Curettd	Not removed	?	Lost sight of
None	.....	?	Lost sight of
None	.....	?	Lost sight of
Excised	Not removed	Glands	Death
Excised	Not removed	2 yrs. glands	Death
Excised	Not removed	Yes, glands	Death
None	.....	Yes, glands	Death
Excised	Not removed	2 yrs. glands	?
Amputation of finger	Not removed	6 mos. glands	Living 10 mos. after removal of glands

ancers, although their histological structure is that of malignancy.

Excision	Not removed	Prompt	Death
Excision	Not removed	None	Well
Amputation	Not removed	None	Well 6 yrs.
Excision	Not removed	None	Well 3 yrs.
Excision	Not removed	None	Well 7 yrs.

	TOTAL CASES.	METASTATIC CASES.
Scalp	3 cases.....	1 case
Face	8 "	5 cases
Neck	3 "	2 "
Trunk	5 "	4 "
Scrotum	1 case	1 case

From these few figures it can readily be seen that the growths upon the face and body are rather more apt to metastasize than are those upon the limbs, but it must be remembered that all of the cases of malignant warts, 5 and probably 6 in number, occurred upon the extremities, especially upon the back of the hand. This may be the explanation of the fact that cancer of the hand is usually considered to be a comparatively mild affection, at least as regards life.

It is especially important to note that in practically every case there was a distinct history of a precancerous affection; these may be classified as follows:

	TOTAL CASES.	METASTATIC CASES.
Scar of burn	11 cases.....	5 cases
Scar of trauma	5 "	1 case
Sinus	1 case	0 cases
Senile keratosis	4 cases.....	2 " "
Wart	14 "	4 "
"Pimple"	5 "	1 case
Blastomycosis	1 case	0 cases
X-ray dermatosis	2 cases.....	2 "
Lupus vulgaris	1 case	1 case
Ulcer	3 cases.....	1 case
Scratch	1 case	0 cases
Arsenic keratosis	2 cases.....	2 cases
Uncertain	10 "	4 "

One cannot but be struck by the procrastination of many of these patients in seeking advice. It is certain that many lives might have been saved, had intervention been sought at an earlier date. When the patients first came under observation the duration of the cancerous change was determined to be:

	TOTAL CASES.	METASTATIC CASES.
1 month	5 cases.....	4 cases
2 months	3 "	0 "
3 months	5 "	2 "
6 months	3 "	0 "
9 months	3 "	0 "
12 months	6 "	2 "
18 months	2 "	1 case
24 months	5 "	0 cases
36 months	2 "	1 case
More than 3 years	4 "	1 "

The fact that 4 out of the 5 very early cases formed metastases is noteworthy.

In 40 instances the growths were excised, in 16 patients amputation was performed, 1 lesion was curetted, and 3 patients were not treated. Thirty-eight cases were followed for 3 years or more, and the results were as follows:

Cured	15 cases
Dead from cancer	16 "
Dead from other causes	1 case
Recurrent cancer, still living	6 cases

Out of these 38 cases there were definite metastases in 23 persons, while but 4 suffered from local recurrences. A more detailed table of the nature of the operation and of the results follows:

NATURE OF OPERATION.	TOTAL CASES.	METASTATIC CASES.	KNOWN CURES.
Amputation	12	2	1
Amputation, glands	4	3	0
Excision	36	16	11
Excision, glands	4	1	4
Curettage	1	0	0
Untreated	3	1	0

The amputations were naturally performed in the severe cases, with the exception of 2 small lesions upon the finger, in which that organ was sacrificed. As might naturally be expected, the percentage of cures was very low. The one cured case was an example of a malignant wart. Where excision alone was performed the ratio of permanent cures was very small. The fact that there were so few local recurrences would certainly show that the growths were completely removed. The best results followed the combination of complete excision and the removal of the draining glands.

CONCLUSIONS.

Although this series of cases is comparatively small, and many have been lost sight of, it is possible to draw certain deductions.

1. There are two varieties of prickle-celled cancer, a malignant type and a warty type, that will metastasize only under special circumstances.

2. These growths always arise from abnormalities, hence many of them could be prevented, or at least operated upon at an early date.

3. Spino-celled cancers are very apt. to metastasize to the regional glands, even at a very early date.

4. The best results have come from the local removal of the growth, together with the radical removal of the draining lymphatic glands.

5. Any form of treatment which does not permit of the proper diagnosis and differentiation of the primary growth is to be deplored. At this point it would be well to point out that many basal-celled cancers can be clearly distinguished in the gross.

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HUMAN SERUM AND BLOOD IN THE TREATMENT OF PSORIASIS AND OTHER SKIN DISEASES.*

BY HOWARD FOX, M.D., New York.

IN a former communication on autogenous serum in the treatment of psoriasis (*Jour. Am. Med. Assn.*, 1914, lxiii, p. 2190) I discussed the general subject of human serum in the treatment of skin diseases, briefly reviewing the literature and some of the theories that were suggested to explain the apparently favorable results obtained. At present I merely wish to record the results of my further experience in this new and interesting field, confining myself largely to the treatment of psoriasis.

At the time of writing, 60 patients suffering from psoriasis in various forms and stages have been treated by a combination of chrysarobin ointment and injections of autogenous serum (in a few cases autogenous blood). All of these patients were treated as office cases in order to keep them under the best possible control. In all, nearly 300 injections were given.

In my former communication, based on a report of 28 cases, it was stated that the serum when used alone did not appear to be of value in the treatment of psoriasis, a statement with which I still most heartily agree. The opinion, however, was expressed that the serum appeared to be of value as an adjuvant to chrysarobin in causing the disappearance of psoriatic lesions. While not quite as enthusiastic as at first, I still feel that some of the good results obtained are best explained by some unknown action of the autogenous serum. This conclusion is based solely on the result of my own work and not upon the favorable reports of Gottheil and Satenstein, Hilario, and the remarks of Drs. G. H. Fox, Fordyce, MacKee and Schwartz in a discussion of my cases recently presented before the New York Dermatological Society (*Jour. Cutan. Dis.*, June, 1915, in press). It is of course possible that the good results were due, not to the injection of serum, but simply to the blood-letting, or, as Dr. Kingsbury and more recently Ravitch (*Jour. Am. Med. Assn.*, 1915, lxiv, p. 1228) have suggested, to the in-

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creased vigor and enthusiasm with which any new method of treatment is apt to be carried out.

Whether or not the new treatment is of value in causing the eruption of psoriasis to disappear, it certainly does not seem to prevent the appearance of relapses, which occurred in my cases with the frequency that is characteristic of this chronic and obstinate disease. Indeed, one of my worst relapses occurred in a patient (case No. 11) an illustration of whom appeared in my former report. The results in a few of my cases were partial or complete failures, though in one apparent failure the eruption disappeared several months after cessation of treatment, illustrating the tendency of this disease to disappear at times spontaneously.

My technique has recently been somewhat changed. Instead of using the MacRae needle, as stated formerly, I now use a needle of about 18 calibre, to which a piece of rubber tubing is attached and inserted into the neck of the sterile glass bottle. Furthermore, since my first communication, the injections have been given intramuscularly in the majority of cases. This is quicker and more convenient than the intravenous method, which Ravitch considers has several objectionable features. It has certainly seemed to me that the therapeutic effects of the serum should be the same, whether injected intravenously or intramuscularly. In a comparatively small number of injections, the whole blood instead of the serum has been used, following the method of the French investigator, Ravaut. The chrysarobin has usually been prescribed in lanolin, in a strength of 10 per cent.

Most of my experience with human serum (and blood) as therapeutic agents has been confined to the treatment of psoriasis. In these cases the serum (or blood) was obtained from the patient (autogenous serum) and was used only as an adjuvant to other recognized methods of treatment. In 21 other cases of skin disease, mostly of the pruriginous class, both autogenous and heterogenous serum and blood were used as the chief or sole method of treatment. The cases were chiefly those that had proved refractory to the usual local and general therapeutic measures. While the results of treatment in general were very disappointing, in a few cases they proved to be very satisfactory and in one case astonishingly good.

The best results, or rather the only results that were really favorable, were noted in dermatitis herpetiformis, seven cases of which were treated. One of these patients was a woman, over 80 years of age, who had suffered from a bullous type of the disease for three

months. She presented a profuse eruption of papules, vesicles and bullæ upon the neck, trunk and extremities and the objective evidence of a most intense pruritus. She was very nervous, unable to sleep, and was in a pitiable condition. She was given at first two injections of autogenous serum of 25 and 30 cc. respectively, with some improvement after the first and very little after the second injections. She was then given eight injections of heterogenous blood (average of 20 cc.) obtained from two apparently healthy Wassermann-negative individuals. The entire treatment extended over a period of six weeks. During this time there was a gradual and steady improvement in both subjective and objective symptoms, and before the last injections had been given, the pruritus had ceased, all the crusts had fallen and the formation of new lesions had ceased. There had furthermore been no relapse at the end of five and a half months. During the entire course of the treatment no local remedy except vaseline, to aid in softening the crusts, had been given.

In a case of dermatitis herpetiformis of the papular type, of six months' duration, in a woman of 30 years, the eruption disappeared completely at the end of three injections of autogenous serum, no local treatment having been used. In another case of the same type of 13 months' duration, in a man of 39 years, the greater part of the eruption disappeared one week after the third injection of autogenous serum. At the end of seven months the condition was greatly improved, although some new lesions had appeared from time to time. In still another case of dermatitis herpetiformis of the vesicular type the eruption disappeared after two injections of autogenous serum, one of heterogenous serum (daughter) and two of heterogenous blood, but showed a partial relapse at the end of 3 weeks. In three other cases of dermatitis herpetiformis, receiving from one to three injections of autogenous serum or blood, the results were unsatisfactory.

No benefit whatever was noted in four cases of eczema, two of which received three and one four injections of autogenous serum, and one case two injections of heterogenous blood (patient's mother). No change was noted in two cases of lichen planus, the first patient receiving one and the second three injections of autogenous serum.

Three cases of chronic urticaria were treated, the first patient showing no benefit from two injections of autogenous serum and the second no benefit from two injections of autogenous serum, two of autogenous blood and two of heterogenous blood (patient's brother). The third patient with urticaria was a woman about 40 years of age, who had suffered severely for nine or ten years. She was given

two injections of autogenous serum, three of heterogenous serum and two of heterogenous blood (sister), and showed a gradual improvement during the course of treatment, extending over a period of ten weeks. Her general health particularly showed a great improvement, and it may be added that hay fever symptoms (morning attacks of coryza and violent sneezing), from which she had suffered for years, disappeared almost entirely.

One case of well-marked prurigo, a boy nine years of age, was treated by one injection of autogenous serum and seven injections of heterogenous blood or serum (parents). Although the eruption was not materially changed, there was a decided improvement in the general condition, the patient becoming much less nervous than before and sleeping quietly at night.

No improvement was noted in a case of senile pruritus after two injections of heterogenous blood (son) and none, as might be expected, in a case of leucoplakia after one injection of autogenous serum. There was also no change in a case of chronic bullous eruption in an infant (possibly epidermolysis bullosa) in which two injections of heterogenous blood (aunt) were given.

Finally, three injections of autogenous serum were given to an elderly man who complained of occipital and ocular pains, insomnia and a general feeling of impending disaster. He suffered from latent syphilis, although his symptoms had not yielded to repeated injections of salvarsan. While he was greatly relieved by the treatment, it seems quite likely that the improvement resulted from the venesection alone, as he suffered from marked arterio-sclerosis and had a high blood pressure.

While the results of the various methods of serum therapy that have been described may not have produced the good effects that had been hoped for, at all events no ill effects were noted. The injections of autogenous serum were practically never followed by any disagreeable effects, though one patient with psoriasis, a boy of 14, complained of general malaise for twenty-four hours and showed a rise in temperature of three degrees. The injections of heterogenous serum and blood were, however, occasionally followed by mild anaphylactic symptoms lasting two or three days, while after intramuscular injections of blood the patient complained at times of considerable discomfort, lasting in one case for a week.

CONCLUSIONS.

Injections of autogenous serum alone have no effect whatever upon the lesions of psoriasis. When given as an adjuvant to chrysarobin, better results seem to have been attained in certain cases than when chrysarobin alone was used. This may be due to the blood-letting alone or the greater vigor with which the new method of treatment has been carried out. The technique is simple and the treatment is without danger if the usual aseptic precautions are observed. While my experience with autogenous and heterogenous serum and blood in other skin diseases is disappointing, the results obtained in dermatitis herpetiformis are at least encouraging.

THE TREATMENT OF PSORIASIS WITH AUTOGENOUS SERUM.*

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IN the past few years serum therapy, in connection with various dermatoses, has been practised by numerous Continental observers. Homologous and autogenous serum, active and inactive, has been employed, and the diseases so treated consisted of urticaria, eczema, psoriasis, pemphigus, senile pruritus, etc.

At first homologous serum was used and sometimes the whole blood; later, however, Spiethoff conceived the idea of using the patient's own serum for the purpose.

Stimulated by these European contributions and more especially by the workers in our own country, the first of whom were Gottheil and Satenstein and later Howard Fox and Hilario, it was decided to take up the work in our own clinic in connection with one disease, namely psoriasis.

The work was begun with an unprejudiced mind, yet it must be confessed that from the beginning the treatment did not appeal to us greatly, as the reason for it seemed somewhat vague and ambiguous, with hardly enough soundness to even partially remove the skepticism naturally existing in regard to any therapeutic measure for a disease of this kind.

We cannot yet see how the serum already existing in the patient's blood stream could be of benefit by its mere removal and reinjection. Aside from this, however, in such an intractable, chronic, recurring disease as psoriasis, any therapeutic measure, however empiric, seems justifiable. Speculations as to the action of the serum, notably those of Spiethoff, are:

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- (1) Sensitization of the lesions to external applications.
- (2) Desensitization of the skin to endogenous irritations.

In other words, these explanations, analyzed, mean that the lesions are rendered more sensitive, and the healthy integument less sensitive, by the introduction of autogenous serum.

The claims growing out of this method of treatment can be summed up under two headings:

(1) The serum injections alone caused the disappearance of the lesions.

(2) The psoriatic foci were so sensitized by the serum that a weak external application (chrysarobin 2%) would easily remove them, the same lesions being extremely resistant to strong external agencies, without the serum injections.

The only theory or reason given for this action is that probably some change took place in serum outside of the body.

With these points fixed firmly in mind, the work was begun.

The treatments were given in two sittings for the reason that ample time be allowed for any change to occur outside the blood stream, as had previously been suggested. At first the injection of serum was done on the following day after the blood was drawn; after a short time, for the convenience of all concerned, the serum was injected on the second day after withdrawal.

Our routine procedure was as follows:

With an ordinary needle of rather large lumen (17 gauge) 100 cc. of blood is drawn from one of the veins in the flexure of the elbow or in the forearm, into a sterile container with a ground glass stopper. This is allowed to clot at room temperature, and is then placed in an ice box. On the second day following, the serum recovered from this blood is carefully decanted into a small sterile container, and eventually injected with a 20 cc. Luer syringe into one of the prominent veins of the forearm. The needle used for injection is much smaller (20 gauge) than the one used for bleeding. The amount of serum gathered from 100 cc. of blood in this manner is a little less than a third of the total quantity, sometimes more and sometimes less.

Very little trouble was experienced; on one or two occasions, clotting occurred, before the full 100 cc. was collected; if this happened after the 80 cc. mark was passed, it was considered a sufficient quantity; if it occurred before the 80 cc. mark was reached, another vein was punctured.

Rather curious to state, we sometimes collected more serum from 75 cc. or 80 cc. of blood from one individual, than we would from

100 cc. of another. It can be readily seen that though our technique was, in a general way, much like that of other workers, it differed in two rather important particulars; namely, the serum was kept from one to two days, before it was restored to the circulation, differing from the usual custom of injecting it within an hour or so, from the time of bleeding; and again, in the majority of the cases, we drew 100 cc. of blood, which is considerably more than was drawn by some of the other workers. All the injections were made intravenously; at no time did we give an intramuscular one.

For this study 50 cases of psoriasis were selected; 30 of these were given the serum treatments, the remaining 20 being used as controls. The controls were divided into two groups of 10 each, one group being placed on 2% chrysarobin ointment, and the other on 10% white precipitate of mercury ointment. An ointment of 2% chrysarobin was given to each patient taking the serum injections, after the sixth treatment, but as far as possible the injections were continued, until the total number reached ten.

After this work was well under way, we were fairly deluged with cases; our facilities however prevented the acceptance of any more than the number given.

In 28 of the 30 patients receiving the serum injections, there was absolutely no change in the eruption before the salve was prescribed; after this time, resolution progressed with fair rapidity.

The remaining two cases deserve special mention, since they bear some interesting features.

The first one, a man 41 years of age, presented himself with a generalized psoriasis of the nummular type. He had been previously treated at our clinic, and upon looking up his history card, it was found that he also had syphilis. After the fifth autogenous serum injection the lesions began to show marked improvement, the scaling and infiltration gradually disappearing, until finally, after the eighth injection, nothing was left, except at the site of every lesion a marked pigmentation. This last feature, the pigmentation, is in our opinion most unusual, unless arsenic has been administered. Only rather uncertain comments can be made in regard to a case of this kind. First, it is possible that a mistake in diagnosis might have been made; this does not seem probable to us (five separate clinicians agreeing upon psoriasis). Second, the two diseases from which the patient was suffering might cause his blood to be in some strange condition, that we do not understand. Third, the disappearance of symptoms might have been spontaneous, which happens on rare occasions. Nevertheless the lesions disappeared.

The second exceptional case was a woman aged 30, who had suffered from inveterate psoriasis practically since childhood. For the last attack she had been a ward patient at the New York Skin and Cancer Hospital for six months. During this time, chrysarobin ointment had been used in strengths varying from 10 to 25%, without definite result. The application would at times remove a few patches, and on others it failed entirely. It would also cause a severe dermatitis, and new lesions would appear in the inflamed area; in fact new patches were constantly making their appearance. At last, during the fifth month of her stay in the hospital, it was noticed that she was slowly recovering, new lesions had ceased to appear and the old ones were unmistakably fading. At this stage all external treatment was stopped, and the serum injections begun. The patient continued to improve under the serum therapy, until almost all the lesions disappeared, when, after the eighth injection, she relapsed, a new outbreak making its appearance before the new treatment was finished.

The control cases furnished some interesting points. As said before, they were 20 in number. To 10 of these was given 2% chrysarobin ointment, so as to compare the rapidity of action, with and without the serum injections; 10 also were put on the ungt. hydrarg. ammoniat., 10%, to see how the rapidity of action compared with the weak chrysarobin applications. It has been almost a routine measure in our clinic to give all cases of psoriasis, at the first visit, the ungt. hydrarg. ammoniat. In a certain small percentage of mild or early cases, this application would remove the lesions; if so, then the disagreeable staining, irritating chrysarobin would be avoided; if not, the case was put on the chrysarobin ointment. The controls using the white precipitate of mercury ointment acted about as was expected; some were benefited, and some were not, but the comparison sought was decided. The mercury ointment was not to be compared in efficiency with the 2% chrysarobin.

The controls using the chrysarobin furnished some valuable information and caused the greatest surprise.

First, the action of the drug was about the same in the control cases as in the serum group. If there was any difference, it was in favor of the control group; they seemed to progress more favorably and effectively than the injection cases; this may have been a coincidence due to individual tendencies. The surprising observation to us was, that the 2% chrysarobin seemed to act quite rapidly and effectively and to produce dermatitis with the same frequency

as the same ointment in 10% strength. The psoriasis lesions would vanish, leaving the same white areas and the same surrounding dermatitis as when a 10% ointment was used. In one or two instances a marked dermatitis was produced with the supposedly weak ointment.

In one of the serum cases, a young woman, the 2% salve produced an intense dermatitis, the redness, heat and œdema of the skin causing great tenderness on pressure, and being sufficient to cause sleepless nights.

Heretofore the usual plan with others has been to inject the serum within one or two hours after the blood was extracted; but the later workers have declared both in print and personal statements, that the serum alone has no effect on psoriasis. For this reason and one other already stated, our technique was changed in respect to keeping the serum from 24 to 48 hours, before restoring it to the blood stream.

If immediate injection of the serum had no effect, we thought that perhaps keeping it longer might be of benefit.

It seems probable that, if the autogenous serum possesses any virtues, it is due to the formation of ferments. Thoughts running along these lines caused us to make laboratory inquiries, to see if there was by chance a way in which changes in serum could be ascertained from day to day. It was found that such an undertaking would be so indefinite and such a monumental task, that we had neither time, facilities nor inclination to attempt it.

While in this quandary as to the manner of intelligently pursuing the reason for beneficial action, the actual clinical work had progressed, and a number of cases had been treated without any result whatever; this put us in a peculiar frame of mind; we were trying to find a reason for beneficial action in a method that had apparently no beneficial action, therefore it was decided to let the work rest on the clinical results alone.

Clear serum unmixed with fibrin elements is a light amber color, with a slight greenish hue; it has been our aim, of course, to procure such serum, though we have not always been successful; at times it has been tinged with red blood cells. This has not seemed to make any difference, as we have had no reactions; in fact, not the slightest symptoms, so far as we could learn, of headache, malaise, etc.

The injections were given at weekly intervals, and active serum was used in every case.

A number of these patients were photographed with the expect-

CASES TREATED WITH AUTOGENOUS SERUM.

No.	Age	Sex	No. of Injections	Type of Lesions	Duration	Average Dose of Serum	Result
1	34	Male	10	Guttate	7 years	23 cc.	No change until after use of chrysarobin
2	30	Male	10	Punctate	18 "	32 cc.	No change until after use of chrysarobin
3	26	Male	10	Nummular & Circinate	9 "	25 cc.	No change until after use of chrysarobin
4	19	Female	10	Punctate	6 "	19 cc.	No change until after use of chrysarobin
5	29	Female	10	Nummular	9 "	38 cc.	No change until after use of chrysarobin
6	37	Male	2	Nummular	7 "	30 cc.	No change
7	15	Female	1	Punctate	12 "	45 cc.	No change
8	17	Female	10	Nummular & Punctate	6 "	44 cc.	No change until after use of chrysarobin
9	22	Male	4	Nummular	9 "	13 cc.	No change
10	45	Female	5	Circinate	12 "	20 cc.	No change
11	35	Male	2	Circinate	10 "	15 cc.	No change
12	28	Female	3	Nummular & Punctate	15 "	37 cc.	No change
13	19	Female	10	Circinate	12 "	37 cc.	No change until after use of chrysarobin
14	25	Female	10	Nummular	10 "	38 cc.	No change until after use of chrysarobin
15	29	Male	1	Punctate	5 "	27 cc.	No change
16	10	Female	7	Nummular	5 "	26 cc.	No change until after use of chrysarobin
17	30	Male	10	Guttate	12 "	32 cc.	No change until after use of chrysarobin
18	26	Male	1	Guttate & Nummular	6 "	4 cc.	No change
19	24	Female	5	Punctate	6 "	40 cc.	No change
20	15	Male	3	Punctate	5 "	29 cc.	No change until after use of chrysarobin
21	17	Female	6	Guttate	5 "	34 cc.	No change
22	30	Female	2	Guttate	5 "	47 cc.	No change
23	21	Female	2	Punctate	2 "	56 cc.	No change
24	25	Male	7	Nummular	5 "	24 cc.	No change until after use of chrysarobin
25	42	Male	10	Nummular	2 "	23 cc.	Lesions disappeared after 7th injection
26	22	Male	10	Circinate	3 "	20 cc.	No change until after use of chrysarobin
27	45	Male	10	Guttate	15 "	24 cc.	No change until after use of chrysarobin
28	17	Female	10	Nummular	10 "	No change	No change until after use of chrysarobin
29	40	Male	4	Nummular	20 "	23 cc.	No change
30	28	Female	10	Gyrate	15 "	40 cc.	No change until after use of chrysarobin

tation of showing the result of treatment. Since our results were practically negative, it seems useless to publish the original photographs. The complement fixation test was negative in every case.

CONCLUSIONS.

(1) Autogenous serum injections alone for the cure of psoriasis seem to us worthless.

(2) Autogenous serum as an adjuvant to weak chrysarobin ointment, seems also to us worthless, since a patient not taking the serum will recover quite as quickly with the same ointment.

(3) Chrysarobin ointment in 2% strength will cause a dermatitis as quickly in patients taking the injections, as it will in those not taking them.

(4) In typical, uncomplicated cases of psoriasis the patches are not influenced, until the external application is begun.

(5) The method is harmless, if done under proper antiseptic precautions.

(6) Our last conclusion is, that many psoriatic patients, who have suffered for years from either persistent or recurring attacks of the disease, become tired and lax in their attention to treatment. The new method serves to stimulate these patients to such an extent that they pay more attention to their personal hygiene, rub in the ointment more vigorously, in fact give themselves up to the treatment; all of which in turn seems to produce a quicker and better result.

DISCUSSION.

DR. PUSEY said that he wanted to record it as his belief that auto-serum therapy had some definite value. The speaker said that he had been using auto-serum treatment in a considerable number of cases. Recently he had been injecting the serum into the buttocks, as Dr. Fox had done. He was firmly convinced that the method had a definite effect. It was entirely beside the question whether or not one knew just what happened while the serum was out of the body. When we reinjected the serum we were not putting back the same thing that we drew out in the blood. The fact that it has clotted meant a considerable change in its composition. His conviction that the method had a definite value was due to his clinical experience; particularly in some cases of dermatitis herpetiformis, in which the results had certainly not been imaginary.

DR. GOTTHEIL said that it was quite delightful, in the arid waste of dermatological discussion on nomenclature and minute pathological differentiations, to hit upon something of practical value. It had never been claimed that the auto-serum injections had any directly curative effects; he had never seen anything but improvement under the injections alone; local treatment was always necessary in connection with it; and the two combined gave results entirely unattainable by the latter alone. He had come to a point when he felt able to promise to clear off the skin of any psoriatic in two to five days, after a series of injections, no matter how old or recalcitrant the eruption; and that with very mild local remedies. The

attendants, who had had in the City Hospital a vast experience in the treatment of these old and recurrent cases, and the patients themselves, most of whom had gone through various psoriasis treatments for years, were astonished at the rapidity of the cures, and at their comparative pleasantness. In the place of six to eight weeks, and of chrysarobin in ointments of 20 to 50%, less than one week (in some cases only two days), and 2 to 5% ointments were required. Dr. Gottheil read a communication received from Dr. O. J. Mink, of the United States Naval Hospital at Bremerton, Washington, the main points of which were:

1. The case treated with auto-serum injections was a very severe one of chronic urticaria, which the patient had had for a long time. About every seven to ten days there occurred an extensive general eruption, the face being sometimes so badly affected that the eyes were entirely closed.

2. The case was observed for six months, during which time the man was a prisoner, so that his habits, diet, and conditions of living were easily controlled and observed.

3. He had received no treatment during or for some time previous to the auto-serum injections, the malady remaining unchanged; so that there was little possibility of a spontaneous cure.

4. After the first injection of 40 cc. of serum a moderately severe attack occurred on the tenth day. A second similar injection was administered four days later.

5. With the exception of a few urticarial lesions during the week following the last injection, the man had had absolutely no trouble since; the period of observation after which the report was written was eight months.

The speaker emphasized the point that clinical results, after all, were the factors of most concern to us; scientific explanations were of less importance. His own idea was that the injections affected the endocrinous gland secretions in some way; being in line with the suggestion that in these as yet little understood functional activities we must look for an explanation of the nature of such as yet entirely mysterious though very common skin affections as psoriasis, eczema and urticaria. He felt sure, however, that the material reinjected into the blood was not the same as that taken out of it; and that not only on account of its undoubted therapeutic effect, but also because on more than one occasion distinct and even violent reactions occurred.

The entire method, of course, was empirical; there was no basis, save an experimental one, for either the dosage or the frequency of the injections. His custom was to give a course of six injections at intervals of from four to seven days each; the amounts of blood withdrawn varied from 50 to 200 cc., and of serum recovered and reinjected from 20 to 100 cc.

Dr. WALLHAUSER, by invitation, said that two years ago a colleague had asked him if he had had any trouble in curing psoriasis, to which he replied, "he had never seen a case that had been cured;" the colleague replied that "he had cured every case that had recently come under his care." Dr. Wallhauser expressed some doubt as to whether the right diagnosis had been made, whereupon the following experience was related.

He had had a case of diphtheria in a child affected with psoriasis, and gave the patient diphtheria antitoxine; the patient promptly recovered from the diphtheria, and gradually the patches of psoriasis disappeared. A year later, the patient had a recurrence of the psoriasis and was given another dose of diphtheria antitoxine, with a like result; following this he had employed it in many cases, with equally good results.

The speaker said that he had injected about twelve cases with diphtheria antitoxine, in which improvement varied in degree only; improvement seemed most marked when serum from a certain horse was employed, which, however, had to be discontinued on account of severe symptoms of anaphylaxis following its use. The antitoxine employed consisted of 2,000 units in 10 cc. doses. A series of cases

were next injected with a serum of 5,000 units in concentrated form; no improvement being noticed following the latter, it was concluded that improvement in the previous cases was due to the increased amount of horse serum, rather than to the antitoxine.

During the past two months plain horse serum had been employed, and while rather early to make decided deductions, improvement was well marked in all cases, and one of the acute type had cleared up entirely. Locally, the only medication had consisted of a 2 per cent. ointment of ammoniated mercury.

DR. SCHAMBERG said that he had treated five cases with auto-serum and the results had been absolutely disappointing. In no instance could he notice any effect from the serum, in spite of the fact that chrysarobin was conjointly employed. In a case where a man had reacted intensely to all strong remedies, there was no lessening of the activity.

Recently he had treated a very rebellious case of dermatitis herpetiformis, in which there was a splendid result. The patient had been practically relieved of his symptoms. He believed, however, that auto-serum therapy in psoriasis was scarcely warranted except in exceptional cases. It was, nevertheless, of distinct value in dermatitis herpetiformis. How the agent acted he could not say, but a reasonable hypothesis was that when the blood was drawn from the veins into a test tube the white cells unquestionably underwent some cytolysis, and it was possible that when the blood was returned to the body there was a larger number of free antibodies which circulated in the blood stream.

DR. GILCHRIST said that Dr. Ketron, of Johns Hopkins Hospital, had been using auto-serum treatment and on account of the enthusiastic results reported he had hoped to get the same himself, but his experience had proved very similar to that of Dr. Trimble, i.e., that it was useless.

With regard to dermatitis herpetiformis, he had had one favorable result. The patient was suffering with an eruption all over the body. He received an injection of 20 cc. in the buttock, and within a week the relief obtained was surprising. A relapse took place and he was again treated, but the result was not the same as at first. Two other cases were treated which had been coming to the hospital for years, and the auto-serum treatment gave better results than anything used before, but the patients went on with their high living and the dermatitis herpetiformis recurred again. One patient with eczema was said to have been relieved.

One point which was noted was rather important, i.e., that the action of the serum was very much more rapid in cases of dermatitis herpetiformis than in psoriasis or other diseases.

DR. G. H. Fox said that there was no doubt that in many cases in which serum therapy had been employed it had produced no results whatever. The question to be answered was whether the treatment was a mere delusion or whether it could produce results that could be obtained in no other way. His own experience with auto-serum treatment was based upon careful observation and the reader of the first paper had been very conservative, and had failed to state the facts as strongly as might have been done. In the case of the old lady of eighty with dermatitis herpetiformis, she was senile, childish, in fact, crazy. She did not sleep at night and it was suggested that auto-serum might be tried. The result was simply remarkable. It may have been a mere coincidence, but she had suffered for years.

He then said that he had treated psoriasis for years, and though he might not be able to treat it better than many, he had certainly treated it longer than most. It would often get better unexpectedly, and at certain seasons of the year it would sometimes get well spontaneously. In many of these cases in which he had tried chrysarobin in from 2 to 5 per cent. applications he had not been able to get results, but after the first or second injection of auto-serum a weak preparation of chrysarobin caused the lesions to disappear entirely. That proved that in certain cases this treatment was capable of producing brilliant results. It might

not be effective in all instances, but in a certain number of cases it accomplished what could not be secured in any other way. It was not the question of how it acted, but to find out in what class of cases this remedy could produce these brilliant results.

DR. WILE said that at a recent meeting in Chicago the point had been urged that the quantity of blood removed was the all-important factor, and that patients in whom only 10 to 20 cc. were removed showed no improvement, but that where large quantities of blood were removed and the serum reinjected improvement customarily followed. Everything, he thought, went to prove that the withdrawal of the blood, rather than its reinjection, was the important factor in this form of treatment. This fact points to the analogy in those cases of psoriasis which sometimes cleared up with anæmic conditions and occasionally followed a prolonged hæmorrhage. Acting on this hypothesis, Dr. Wile had in a series of cases withdrawn large quantities of blood, and instead of reinjecting the serum he had simply thrown it away, and he felt that his cases thus treated showed about the same improvement as those who had received the injection of the serum.

DR. McDONNELL, by invitation, said that when the papers on auto-serum treatment were first published, the method had been tried in a number of cases at the New Haven Hospital and the New Haven Dispensary. Dr. Trimble had made the statement that this treatment was unattended with any risk, but it almost resulted fatally in the case of a child with infantile eczema, treated at the hospital with a subcutaneous injection of 10 cc. The child developed anaphylactic symptoms of the most alarming type, running a temperature of 105°, and a pulse which could not be counted. The eczema, which was of long standing, almost disappeared in 24 hours, but recurred in less degree as the anaphylactic symptoms abated. The child was given more serum injections and was cured of its eczema, with no recurrence of the symptoms of shock. Other cases of infantile eczema were treated at the hospital with auto-serum injections, with no apparent results.

There was one remarkable case of improvement in dermatitis exfoliativa in a psoriasis patient—a generalized case and a very bad one. It improved promptly under auto-serum. The only external application was lard.

In psoriasis, he had seen only one case where he thought the auto-serum was responsible for speedy relief. In this case, there had since been a recurrence, which was worse than ever. He thought it mostly a coincidence when a case improved under the auto-serum.

DR. SATENSTEIN, by invitation, said that some remarks had been made to the effect that the auto-serum treatment was of very little value and he wished to refer to an interesting case reported from the Post-Graduate Hospital, a case of malignant endocarditis with streptococcus. The patient had been in the hospital for a number of months. In four days' time she was given three injections of her own serum and at the end of ten days she was discharged with absolutely sterile blood, and all symptoms relieved. She had been running a temperature of 105° to 106° and her temperature became normal and remained so. There was a report that the French Army was using auto-serum and that they found that patients treated with their own serum did not have any of the complications that usually occurred; that the serum alone controlled the temperature. That went to show that what was injected was not the same thing that was removed.

So far as the treatment for psoriasis was concerned, he cited a case that had been under treatment at the City Hospital within the last two months. She had been under one man's care for five or six years; chrysarobin had been applied, with no relief. Then she had six injections of auto-serum. Her psoriasis had cleared up after the fourth injection.

DR. ALDERSON asked about untoward effects from the use of auto-serum, other than those of anaphylaxis, and cited the case of an old man with pruritus, enlargement of the thyroid gland and rapid pulse. Thyroid depressants were tried, but without success. He suffered very much from the pruritus and none of the

usual remedies gave him any relief. No cause could be found for the pruritus and so he was treated empirically. It was finally decided to try serum treatment. He was given an intravenous injection of serum obtained from another man. The itching became intensified and he became very irritable and wanted to fight every one in the ward, so that the nurses were kept busy for a while trying to control him. A reasonable explanation would seem to be that the injection stirred up a hypersensitive thyroid.

DR. HOWARD FOX said that he had tried to be honest and conservative in presenting the subject of human serum and blood in the treatment of skin diseases. Dr. Wile had expressed a decided opinion that the favorable action in the cases of psoriasis was simply due to bloodletting. This explanation, however, could not apply to the case of dermatitis herpetiformis that had been treated by blood and serum from other individuals, no blood having been drawn from the patient. While his results in general were disappointing with heterogenous serum and blood, he was pleased to have noted more or less unanimity of opinion regarding the use of serum in one disease, namely, dermatitis herpetiformis.

DR. TRIMBLE said that he could only repeat that in his work with the serum it had failed absolutely in the treatment of psoriasis. The whole paper was based on the treatment of psoriasis and no other disease. Lately they had decided to try the autogenous serum on several other dermatoses, and had already begun with one case of dermatitis herpetiformis and one of chronic pruritus. No beneficial result had been observed in either case, but as yet only four injections had been given.

NEW APPARATUS.

A NEW APPARATUS FOR THE INTRAVENOUS ADMINISTRATION OF NEOSALVARSAN IN CONCENTRATED SOLUTION.

By LOYD THOMPSON, PH.B., M.D., Hot Springs, Ark.

THE apparatus consists of two 20 cc. Luer syringes, A and B; a clamp, C; a special three-way cock, D; and an ordinary Luer needle of any convenient gauge, H.

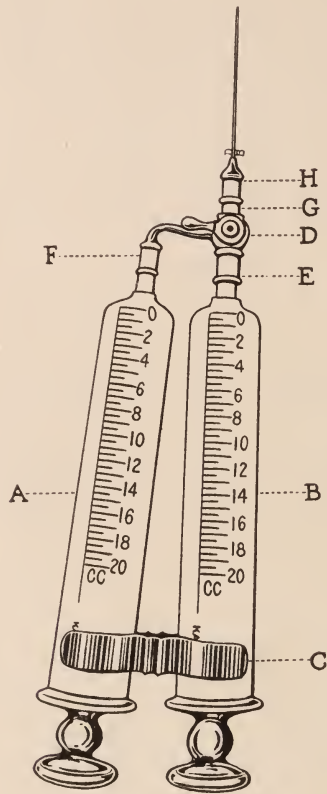
The three-way cock is so constructed that the syringes fit snugly into sockets, E and F; and the needle fits the nozzle, G.

When used, the whole apparatus is sterilized by boiling and connected. The neosalvarsan is dissolved in 20 cc. of sterile, freshly distilled water and placed in the syringe, A. Syringe B is filled to the 20 cc. mark with freshly prepared sterile normal salt solution. After forcing the air out of the apparatus the valve lever of the stop cock is adjusted so that there is a direct communication between the needle and the salt solution.

After placing a tourniquet around the arm above the elbow, the

needle is inserted into a prominent vein in the direction of the blood stream. Its presence in the lumen of the vein is indicated by a slight flow of blood into the salt solution. The tourniquet is now removed and a portion of the salt solution injected. If no bulging of the perivascular tissues results it is proof positive that the point of the needle is free within the lumen of the vein.

The valve lever of the stop cock is now turned 90° to the left, thus making a direct communication between the needle and the neosal-



varsan. The latter is slowly injected, after which the valve lever of the stop cock is turned to its original position, a few cc. of salt solution injected and the needle withdrawn.

ADVANTAGES.—The advantages of this apparatus are due to it having no rubber connections. It may thus be better sterilized and is rigid, so may easily be handled by one person.

SPECIAL ARTICLE.

ELEMENTARY INSTRUCTION.

PHYSICAL DIAGNOSIS IN DERMATOLOGY.

BY D. L. SATENSTEIN, M.D., New York.

(Continued from p. 527.)

(2) **PAPULES** are of various shapes and colors, small, soft or firm, superficial, circumscribed elevations of the skin.

Size: From pin-head to pea.

Shape: Varies according to base and summit; the base may be circular, polygonal or angular; the summit or top may be acuminate, rounded, flat or umbilicated.

Color: Varies according to the nature and circumstance of which the papule may be a symptom or part; examples: whitish as milium, yellowish as xanthoma, reddish as eczema, coppery red as syphilis, violaceous as lichen planus, purplish as erythema multiforme, brown to black as nævus and sarcoma; most common, reddish, pale or dark.

Occurrence and evolution: Many ætiological factors are encountered in many diseases; they have their seat in different structures of the skin, as epidermis, connective tissue, in connection with glandular structures or hair follicles. May be due to inflammation, either acute or chronic; to hypertrophy or to new growth; usually inflammatory. Usually multiple; may occur in association with other primary or secondary lesions; not infrequently alone and remain in their original form, with definite color and structure, throughout their evolution. May or may not gradually or rapidly change into vesicles or pustules or break down into ulcerations; may disappear by absorption, common with most of the inflammatory variety; may disappear spontaneously; following disappearance of long standing inflammatory papules, more or less pigmentary deposits are not uncommon (see preceding article in *THE JOURNAL* for July, 1915, xxxiii, No. 7, p. 526). May or may not be accompanied by subjective symptoms of burning and itching, depending upon the nature of the cause.

TYPES: Not many, but differing from each other not only in color and form, but in anatomy and evolution.

I. ACUMINATED: base rounded, summit conical or pointed.

(A) *Inflammatory:* itchy, small, with conical tops, moderately soft, reddish to violaceous, usually discrete; may be aggregated into patches; no tendency to scaling, usually more or less persistent without change; may disappear spontaneously and be replaced by others; examples, papular eczema and lichen simplex chronicus.

(B) *Non-inflammatory:* not itchy, small, discrete, with pointed tops, grayish, base sometimes reddish, more or less persistent, without change; are follicular or perifollicular and usually congenital; examples, keratosis pilaris and ichthyosis.

II. ROUNDED: summit convex or bluntly rounded:

(A) *Inflammatory*. (a) Intensely itchy, small, slightly raised, pale red, dark scabbed tops (blood crusts from scratching), deeply seated, hard; may disappear by absorption, usually more or less persistent without change, begin in early life; example, prurigo. (b) Rarely itchy, larger, purplish, usually crowded together, moderately soft, speedily enlarge to nodules or tubercles, never break down, remain short time, disappear by absorption; example, papular erythema multiforme. (c) Not itchy, small (miliary), coppery red, tendency to grouping, scaling tops, moderately firm, usually more or less persistent, may last for months if untreated, may disappear by absorption, leaving fawn-colored stains (see preceding article): example, grouped miliary syphiloderm. (d) Not itchy, large coppery red, irregularly scattered, firm, as (c), but not persistent; example, papular syphiloderm.

(B) *Non-inflammatory*. (a) Not itchy, small, whitish or grayish, glistening, discrete, hemispherical elevations, firm, more or less persistent, without change; example, milium. (b) Various sizes, shapes, colors and consistency, may remain without change or undergo various kinds of degeneration or break down into ulcerations; examples, the many different forms of benign and malignant neoplasms.

III. POLYGONAL OR ANGULAR: base irregular; tops flat with centres sometimes depressed.

Always Inflammatory: intensely itchy, smaller or larger, flat, shiny, violaceous in color, slight scaling at tops, tendency to aggregation or confluence or ring formation; may become irregular or verrucous; some individual lesions have depressed centres; are firm, more or less persistent, never break down, disappear by absorption, leaving stains (see preceding article); tendency to reappear; example, lichen planus.

IV. FLAT: base irregular or polygonal; tops flat, some with depressed centres:

(A) *Inflammatory*: example, lichen planus.

(B) *Non-inflammatory*. (a) Not itchy, yellowish, tendency to band formation; soft, more or less persistent without change; example, xanthelasma. (b) Various sizes, same color as normal skin; usually on exposed parts; may remain indefinitely or disappear spontaneously; example, flat warts. (c) Slightly itchy; of various sizes and shapes, light pinkish in color; frequently dilated superficial vessels, light yellowish (pearly) margins; moderately firm; may be crusted on surface; example, beginning epithelioma.

V. UMBILICATED: base circular, angular or irregular; summit rounded or flat, with depressed centres.

(A) *Inflammatory*: example, lichen planus.

(B) *Non-inflammatory*: not itchy, of various sizes and shapes, tops rounded, pearly, translucent, discrete, with minute aperture in central depression; somewhat soft; may be tense; remain variable time, may go on to suppuration or dry into crusts and disappear; new ones may appear; example, molluscum contagiosum.

VI. IRREGULAR: base and summit may be any shape.

Usually Non-inflammatory. (a) Same color as normal skin, sometimes pigmented; may be arranged in bands or lines; may be small, rounded, acuminate, soft or firm; usually limited to one side of body; may be congenital or acquired; usually remains unchanged indefinitely, sometimes undergoes degeneration; ex-

ample, various forms of *nævus unius lateris*. (b) Not itchy, of various sizes, shapes and colors; may remain unchanged or undergo degeneration, especially in the aged; examples, ordinary warts and senile warts.

VII. HEMORRHAGES into skin: small, circumpilar, usually reddish to bluish, discrete, usually general; more or less persistent; disappear by absorption, leaving stains; example, *purpura papulosa*.

MACULO-PAPULE. A circumscribed and slightly elevated macule.

SQUAMOUS PAPULE. Inflammatory papules in the course of their evolution; are frequently surmounted by an accumulation of scales, more particularly during the stage of retrogression.

PAPULO-VESICLE, PAPULO-PUSTULE. Papules with tops changed into either vesicles or pustules.

DIAGNOSTIC VALUE. From a statement that a disease is papular in type and inflammatory or non-inflammatory in character, and given the size, shape, color, occurrence and evolution of the lesions, a probable diagnosis may be reached by a process of exclusion.

(To be continued.)

SOCIETY TRANSACTIONS.

PHILADELPHIA DERMATOLOGICAL SOCIETY.

Regular Meetings, March 15 and April 15, 1915.

FRANK CROZER KNOWLES, M.D., *Chairman*.

HYPERPIGMENTATION. Presented by DR. STELWAGON.

Male; white; age, 37; policeman by occupation. About two years ago the patient received an electrical shock of sufficient severity to render him unconscious. This was followed by a brownish pigmentation over his entire body, resembling that which frequently occurred from the use of arsenic. It was not a uniform pigmentation, but presented a mottled appearance and had continued ever since, varying in shade from time to time. The patient was extremely nervous, and it had been remarked that the color of the pigmentation varied with the condition of his sympathetic nervous system.

CASE FOR DIAGNOSIS. Presented by DR. DAVIS.

Male; white; age, 11 years. For five years there had been present on the nose and cheeks and also on the back of the hand an apparently atrophic condition, which varied according to the season. The color was brownish-red and had a tendency to disappear in winter and recur in the summer. The eruption was confined entirely to the exposed parts, stopping abruptly at the wrist line and on the neck at the top of the collar. There were no tubercles or vesicles, only a few papules on this mildly inflammatory base; the skin was wrinkled, giving the appearance of atrophy. While the question of pellagra was considered, yet there were no other manifestations of this disease nor was it customary for pellagra eruptions to disappear in the winter.

TERTIARY SYPHILIS. Presented by DR. KNOWLES.

Female; white; age, 26. The eruption had existed for one year. It was confined to the left cheek and was irregular in outline, with very fine superficial scarring. Lupus erythematosus was first considered, but upon careful examination several lesions were found on the arm which were distinctly syphilitic in character. The Wassermann reaction was strongly positive.

CASE FOR DIAGNOSIS. Presented by DR. SCHAMBERG for DR. FINCK.

Male; white; age, 63. Two years ago the patient noticed a small spot on the back of the neck near the hair line. The eruption developed slowly, until there was a distinct group of lesions in the back of the neck and two or three on the left side of the neck. The latest one to develop was on the left ear. The lesions had elevated edges, somewhat rolled, and with some ulceration in the centre. The patient was given three injections of salvarsan without effect. Two Wassermann examinations had been made and both proved negative.

DR. HARTZELL looked upon this as an epithelioma, and this diagnosis was accepted.

DEEP-SEATED TINEA. Presented by DR. SCHAMBERG.

Male; white; age, 28. In the median line of the back of this patient, in the dorsal region, was a deeply infiltrated lesion about $2\frac{1}{2}$ inches long and $1\frac{1}{2}$ inches wide. The border was markedly indurated and quite inflammatory. It was ring-

shaped, and the centre was comparatively free from infiltration, but there was a low degree of inflammation present. This single lesion had existed for about ten weeks. A small piece had been removed, macerated and examined microscopically, when slender mycelial threads were easily demonstrable. A part of the lesion was planted on Sabouraud's medium, where it showed a marked wine-colored growth. This culture was shown at the meeting.

TINEA TONSURANS. Presented by Dr. STRICKLER.

Male; white; age, 7. This patient had had ringworm of the scalp for several months and had been given 12 treatments of autogenous vaccine, resulting in a cure.

LUPOID SYCOSIS. Presented by Dr. DAVIS.

This patient had been suffering from sycosis vulgaris of the lupoid type for several years, and had been previously shown to the Society. He had been treated with trichloroacetic acid with most satisfactory results, the nodules having entirely disappeared.

TUBERCULOSIS VERRUCOSA CUTIS. Presented by Dr. SCHAMBERG.

Male; white; age, 32; sailor by occupation. Two years ago the patient noticed an eruption on the left buttock. This spread rather slowly, was always very sharply defined, and distinctly warty in appearance. When the patient was presented the lesion was between two and three inches in diameter and very sharply defined, with no pustules but with a slight degree of ulceration.

While the diagnosis of tuberculosis of the skin was maintained, yet it was suggested by several that tertiary syphilis should be considered and, also, deep-seated tinea.

LUPUS VULGARIS TREATED WITH THE X-RAY. Presented by Dr. KNOWLES for Dr. DAVIS.

A. B.; male; age, 10. For five years the patient had had the typical lesions of lupus vulgaris situated at the angle of the left jaw and below the mastoid process. During the past year he had had frequent X-ray exposures of varying intensity and duration, and the nodules had entirely disappeared, leaving a marked teleangiectatic condition. The results were unusually good.

CASE FOR DIAGNOSIS. Presented by Dr. STELWAGON.

F. C. H.; male; age, 31. Four years ago the patient had had an operation for some rectal trouble and a fistula resulted opposite the lumbar vertebrae. Following this operation, the skin began to break down around the rectum. When presented, the lesion extended from the scrotal fold up to the first lumbar vertebra; it was remarkably symmetrical and spread out in the same manner that ink would do when dropped in the fold of a paper and squeezed tightly. Around the fistula, which was still existent, there was smooth cicatricial tissue surrounded by a pinkish inflammatory zone. Below the coccyx there was a deep ulceration, three inches in diameter, and extending $\frac{3}{4}$ of an inch into the muscular tissue, with several large tubercles at the outside border. The patient had had a chancre about eight years ago, and had been under active antisyphilitic treatment for three years, and recently had had two negative Wassermann reactions. He had had several operations for the rectal trouble without any permanent relief. The general health was good.

The diagnosis of lues was seriously considered by some, but others agreed that it was much more in the nature of a tuberculosis cutis.

FOLLICULITIS DECALVANS. Presented by Dr. EALER for Dr. SCHAMBERG.

B. C.; male; age, 39. Three years ago the patient noticed a bald spot on the vertex of the scalp. This spread slowly and other lesions gradually made their appearance. These coalesced, forming larger plaques, until at the time of presentation there were eight or ten of the lesions, varying in size from a dime to a half dollar. In each plaque there were several small pustules and a complete loss of hair, though there was no pinkish inflammatory areola.

LUPUS ERYTHEMATOSUS. Presented by Dr. HIRSCHLER.

C. D.; female; age, 12. Six months ago there was noticed on the top of the child's scalp a small area completely denuded of hair. Inflammatory in character, this had extended rapidly until there were six or eight such plaques, each from a half to one inch in diameter, covered with a fine scale and with very small areas of superficial atrophy. There were no lesions on the face or on any other part of the body.

LUPUS ERYTHEMATOSUS. Presented by Dr. GASKILL.

M. N.; female; white; age, 52. While the individual lesions were typical of the disease, yet there were two rather unusual features. All the lesions were on the left side of the face; one long lesion was over the malar eminence; one small one was on the nose; one over the left temple and two or three behind the left ear. There were no lesions on the right side of the face. Another unusual feature was that the disease had started after the age of 50, and while this had been noticed before, yet it was rather uncommon. One lesion had been treated with trichloroacetic acid and showed considerable improvement.

CASE FOR DIAGNOSIS. Presented by Dr. DENGLER.

A. B.; female; age, 7. The eruption began four years ago and had existed at intervals during the entire period. When presented, there were numerous lesions, one a large, scaly, indurated, slightly vesicular patch on the vertex of the skull. The face was covered with numerous vesicular lesions, varying in size from pin-head to split pea. Over the nose and cheeks were large plaques, composed of vesicles with crusts, and showing the effect of scratching. Smaller lesions occurred on the dorsal aspects of the hands. The face showed several small pockmarks, the result of previous attacks. The speaker said that if the child was confined to the house the eruption would entirely disappear, but as soon as she was exposed to daylight the eruption would return and was, therefore, very much worse in the summer months. When presented, there were no lesions on the legs, though they had existed there on previous occasions, as was made manifest by the scarring. The general health seemed good.

Dr. Knowles remarked that this child had been in the Children's Hospital a year or so ago and was discharged entirely cured. There had never been any lesions on the trunk or on the upper part of the arms or legs. A conditional diagnosis was made of dermatitis herpetiformis, but as Dr. Stelwagon had said, a diagnosis of hydroa aestivale could not be entirely eliminated, nor could that of epidermolysis bullosa.

ECZEMA. Presented by Dr. EALER for Dr. FINCK.

Female; colored; age, 10. For two years the patient had had an eruption on the palm of the hand, where, at the time of presentation, there was some slight thickening and considerable exfoliation. Within the last few weeks a dry, scaly

eruption had appeared at the corners of the mouth and the muco-cutaneous junction of the nose. There was considerable itching at times. Dr. Finck referred this patient to the Society, feeling that there might be a question of lues, but the character of the eruption, the absence of induration, the presence of itching and other symptoms sustained a diagnosis of eczema.

HENRY K. GASKILL,
Secretary.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York.

Assisted by

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DERMATOLOGISCHE WOCHENSCHRIFT.

(Oct. 3, 1914, lix, No. 40.)

Abstracted by CHAS. GOOSMANN, M.D.

THE OXIDIZING DRUGS IN DERMATOLOGY. P. G. UNNA, p. 1143.

In marked contrast to the large number of reducing agents used in dermatology, there are very few oxidizing agents. The former lessen cell division in the germinal layer, thereby retarding the formation of new prickle cells, and facilitating their conversion into horny cells. This explains the action of chrysarobin and pyrogallol in psoriasis and chronic eczema. The reducing agents are, therefore, the chief remedies in the large group of diseases characterized by acanthosis.

Where hyperkeratosis is a feature, as in some cases of psoriasis and callous eczema, and in lichen and acne, the oxidizing agents are very useful, if combined with an alkali. Potassium permanganate, 1.0 gram, is triturated with 10.0 cc. of hot water, and 10.0 grams of zinc oxide is gradually added. This paste has good keeping qualities, and because of its color changes when rubbed into the skin is known by the name of "chameleon paste." This color change indicates a reduction of the permanganate, and is accompanied by the formation of potassium hydrate. Unna finds the paste useful in eczema of the palms and soles, in lichen, acne punctata and psoriasis. In the treatment of psoriasis, the areas covered with thick scales are rubbed with the paste, and the following morning a warm bath removes the scales without difficulty. Or one can follow the paste at once with

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pyrogallol ointment, but in that event it is well to incorporate the pyrogallol in a water containing base, such as "Eucerin," as the water is needed to permit the full action of the potassium hydrate, liberated from the permanganate.

(To be concluded.)

(*Ibidem*, Oct. 10, 1914, lix, No. 41.)

A REPLY TO HAVAS' CRITICISM. MENAHEM HODARA, p. 1167.

In the *Monatshefte für praktische Dermatologie*, 1898, xxvii, No. 2, Hodara published some experiments under the title, "On the Growth of Hair in Favus Scars After Scarification and Implanting of Portions of the Hair Shaft." At the latest Congress of Dermatologists, in Vienna, Havas questioned the correctness of these observations. Hodara reiterates them, and Unna, in a supplementary statement, confirms them from personal experiments.

THE OXIDIZING DRUGS IN DERMATOLOGY. P. G. UNNA, p. 1170. (*Concluded.*)

Sodium superoxide (Na_2O_2) is a useful oxidizing agent, but is quickly reduced in the presence of water. The only way to use it, therefore, is to have it incorporated in a thoroughly water-free soap. In 1899 Unna introduced such a soap, of ointment consistency, and recently this has been prepared in solid cakes under the name "Pernatrol-Stückseife," and also in pencil form for treating small areas. The effect depends upon two factors: oxidation and alkali action. In many conditions associated with hyperkeratosis this is a useful aid, but Unna calls attention to a few unusual applications of this sodium peroxide soap.

Chronic Roentgen dermatitis is benefited by washing once or twice daily, for half hour periods, using plenty of the soap, and following with "Eucerin cold cream." At night it is recommended to use "Eucerin glycerin" and wear gloves. The localized keratoses are treated with the pencil of soap. The latter is moistened and rubbed on the affected part until a thick lather forms, which is permitted to dry. Xeroderma pigmentosum, being analogous to Roentgen dermatitis, is also benefited by the same treatment.

Two cases of morphea and one of congenital atrophy of the scalp are detailed to show the marked improvement following the soap treatment, and even a cosmetic defect such as "crow's feet" appears to respond to this treatment.

(*Ibidem*, Oct. 17, 1914, lix, No. 42.)

PURIUM, A NEW COAL TAR ESTER. CHAJES, p. 1183.

In 1908, Chajes pointed out the advantages of coal tar as compared with the tar derived from wood. The former was less irritating and could be used in acute and subacute stages of eczema, where the ordinary tar preparations were not tolerated. There were two objectionable features, however: the odor and the intense staining. These are absent in the new patented preparation "Purium," which the author has used during the past year in more than 400 cases.

(*Ibidem*, Oct. 24, 1914, lix, No. 43.)

SOME PRACTICAL REMARKS ON A CASE OF PELLAGROUS ERYTHEMA. GUIDO DE PROBIZER, p. 1207.

Probizer's patient, a sixteen-year-old girl, had been living for more than two years in an institution where polenta was not included in the dietary. She then

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returned to her home, where cornmeal formed the chief article of food. In a few months she developed pellagra, and it was found that the supply of meal was kept in a damp, mouldy cupboard.

The author inclines to the maize theory and mentions briefly some of the other theories.

(*Ibidem*, Oct. 31, 1914, lix, No. 44.)

CHALK PASTES. P. G. UNNA, p. 1223.

Since Wilkinson published the formula for his ointment, chalk has been an ingredient of many ointments for the treatment of scabies. In some of these, the proportion of chalk was so small that it might as well have been omitted. And where no tar entered the formula, the chalk was superfluous, as its purpose was to neutralize the tar.

In 1884, Unna advised the addition of chalk to carron oil, to give a paste-like consistency. This he still uses in the following proportions: Ol. lini, Aq. calcis, āā 20.0, Cretæ, Zinci oxydati, āā 30.0, and names it pasta zinci mollis. This is a good cooling and drying paste, useful in second degree burns, the dermatitis due to iodoform, chrysarobin, etc., and in weeping eczema. The antacid action of the chalk appears to be the important feature.

More drying than the above is the following formula: Calcium carbonicum D. A. B. V. 40.0, Zincum oxydatum 20.0, Mucilago gummi arabici 20.0, Glycerin 10.0, Aq. calcis 10.0. Menthol or thymol, 1%, is added to prevent decomposition, and the paste is dispensed in tubes, as it dries rapidly in the air. When applied to the skin it dries so well that a dressing is unnecessary. This paste is indicated:

1. In erysipelatoïd eczema, and as a preliminary treatment in vesicular and weeping eczema.
2. To form a dry coating over any ointment, either to obviate the use of a bandage, or to prevent the ointment spreading, as in the treatment of psoriasis.
3. To protect the skin around a wound or a fistula from secondary infection.

(*Ibidem*, Nov. 7, 1914, lix, No. 45.)

THE TREATMENT OF ITCHING DERMATOSES WITH RINGER'S SOLUTION AND OWN BLOOD. FRITZ LUX, p. 1247.

After a long period of disrepute, venesection was reintroduced as a therapeutic measure in eclampsia, on the theory that it removed the circulating toxins. Bruck advocated its use, on similar grounds, in itching dermatoses supposed to be caused by toxins in the blood. The injection of serum was advised, also, in the belief that it diluted the poison; until Spiethoff demonstrated that the patient's own serum had the same effect. Rissmann was the first to inject Ringer's solution instead of serum, and he also had a good result.

Lux gives his experience with different methods. One case of urticaria was given two intravenous injections of blood serum, without improvement. In ten later cases he substituted Ringer's solution, on account of simplicity, usually preceding the injection by a withdrawal of blood. The results were entirely negative in a case of eczema madidans as well as in one of dermatitis herpetiformis. A case of widely distributed callous eczema had immediate relief of the itching, with rapid healing, leading to the belief that the itching was primary and the eczema a secondary effect. One case of urticaria (3 weeks' duration) was cured with one injection; another obtained no benefit. Several cases of pruritus were benefited or cured. A pyrogallol dermatitis ceased itching, but the inflammatory symptoms were uninfluenced.

Ringer's solution is freshly made according to the formula: Distilled water 1,000, sodium chloride 9.5, potassium chloride 0.2, calcium chloride 0.2, and sodium bicarbonate 0.6. There should be no cloudiness or precipitation. The intravenous

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injections were usually well tolerated, although several cases had chills and slight fever.

(*To be concluded.*)

(*Ibidem*, Nov. 14, 1914, lix, No. 46.)

A FURTHER REPORT ON PRIMARY SYPHILIS AT THE UMBILICUS. RILLE, p. 1271.

In 1912, Rille reported 8 cases. He now adds 3 cases, two of which were possibly contracted through wearing the clothing of infected persons.

THE TREATMENT OF ITCHING DERMATOSES WITH RINGER'S SOLUTION AND OWN BLOOD. FRITZ LUX, p. 1273. (*Concluded.*)

Eleven patients were given injections of their own blood. Twenty or thirty cc. of blood were rapidly withdrawn from a vein into a warm glass syringe, and immediately injected into the gluteal region. Four cases showed no improvement: mycosis fungoides, pruritus in a neurasthenic individual, giant urticaria, and an urticaria-like eczema. One case each of lichen urticatus and urticaria and three cases of pruritus universalis were cured, while the other two cases (pruritus and eczema) were improved.

The various theories that have been proposed to explain these methods of treatment are considered, but until more is known of the mechanism of itching, the explanations will be unsatisfactory.

(*Ibidem*, Mar. 20, 1915, lx, No. 12.)

Abstracted by MAX SCHEER, M.D.

CONTRIBUTION TO THE STATISTICS OF SCABIES, BASED ON 2,470 CASES TREATED IN LEIPZIG SKIN CLINIC FROM 1903 TO 1910. KARL WILKE, p. 281.

From 1903 to 1910, inclusive, 2,470 cases of scabies were treated at the Leipzig Skin Clinic; of these, 1,817, or 73%, were males; 653, or 27%, were females, a proportion of three males to one female.

In 1903, there were 207 cases; in 1910, 599. This increase was due, not only to the growth of population in Leipzig, but also to the greater confidence of the people in the clinic.

On the average, the months of February, January and December showed the largest number of cases and August the least; with slight variations, this applied equally to men and women. In winter more working people came to town; they live under more crowded conditions; and moreover, when in want of lodging and food for a few days, are more apt to come to the hospital for treatment for a recently acquired or old scabies.

The youngest male was six weeks old; the oldest 78 years. There were 277 children (up to 14 years of age), or one-ninth of the total. The percentage of children is less than that reported by other authors, as many children who should have been included in the statistics were treated in the out-patient and pediatric departments. There was an irregular rise and fall in the cases from the first to the fourteenth year, so that no conclusions could be drawn from these figures.

Of the 277 children, 142 were boys and 135 girls; in childhood the sexes are equally affected, as they live under the same conditions; but with the completion of school age the difference becomes very marked; while the number of cases increases very rapidly and reaches its maximum in both sexes in the twentieth year, yet the males are in great preponderance; this is already evident in the fifteenth to sixteenth year; in the eighteenth year there are twice as many males and in the

twentieth year three times as many. It is evident that this increase is not accidental; after their school years many more males than females leave their homes.

Of 1,817 males, there were between the fifteenth and twenty-fifth years 1,084 cases, or 60%; 410 out of 653 females, or 63%, were recorded in these years.

From the twenty-fifth and especially the thirtieth year on, the number of cases of scabies gradually diminished, though it does not entirely disappear. There were four cases over 70 years old, three men and one woman.

With reference to occupation, laborers headed the list; one-fourth of these were foreigners, Polish or Galician. Then came blacksmiths and locksmiths; one-third of the latter were men who traveled from place to place in search of work. Third came students; in the large towns they are exposed to venereal infections as well as scabies; infection with the latter is facilitated also by their living together. Then come waiters, salesmen, peddlers, stable help, butchers, tailors and other occupations.

In women, the largest number of cases were in prostitutes; then came laboring women, domestics and waitresses and other occupations.

EMBARIN IN PRIVATE PRACTICE. K. THUMMEL, p. 293.

The author used embarin in 31 selected cases of lues. Injections were given daily or every other day; 15 constituted a course. Infiltrations, stomatitides and intestinal disturbances were seldom observed, and even then were evanescent. Luetic manifestations disappeared rapidly; the effect on the Wassermann reaction, however, was slight. In contradistinction to the few untoward symptoms due to mercury, there were, in several cases, general disturbances, usually evanescent, but in three cases severe enough to discontinue the treatment. These disturbances consisted in anorexia, headache, dizziness, vomiting, general scarlatiniform eruption and high fever. These manifestations were undoubtedly due to the rapid absorption of mercury. Nevertheless, the author considers embarin a very useful antisyphilitic remedy, provided it be given with due care and control of the patient.

(*Ibidem*, Mar. 27, 1915, lx, No. 13.)

CONTRIBUTION TO THE STATISTICS OF SCABIES, BASED ON 2,470 CASES TREATED IN THE LEIPZIG SKIN CLINIC FROM 1903 TO 1910. KARL WILKE, p. 310.

Most of the cases came from the centre of the town; the remainder were almost equally divided among the suburbs. Of those who had no established dwelling, most came from out of town, among them being 300 men and six women. That scabies is so frequent among them is not to be wondered at; 32 patients were entirely homeless; most of them were vagrants or tramps. Among the homeless were 23 patients, including two families, one of 5 and the other of 7 people. Of the 277 affected children, 5 were orphans, and 41 (20 boys and 21 girls), i.e., 15%, were of illegitimate birth.

Although scabies is acquired only by intimate contact, usually by sleeping together in the same bed, yet only three patients stated that their infection was acquired as a result of intercourse.

There were 14 families, in each of which several members were affected; among them one family of 10 people in which scabies was endemic; they came for treatment, on and off, for several years. In 30 cases the mother and in 16 the father, with one or more children, were affected.

In over 50 cases, brothers and sisters, mostly children, were affected; 17 patients attributed their scabies to infection in their occupation. One actor stated that his entire company was infected; one student attributed his infection to a fraternity brother; several stated that they were infected from boarders.

The most common subjective symptom was itching, especially at night when in

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bed; only one patient stated that he was free from pruritus, though he had a well-marked and widely spread scabies. Certain patients, "acarophobes," complained of itching after a thorough course of treatment with Ung. Wilkinsonii, and in whom there were no longer any objective signs of scabies.

Information concerning the original site of itching was obtained from 142 patients; of these 84 stated that it began on the hands and forearms; 25 males first noticed the itching on the genitals and inner aspects of the thighs; 5 females on the breast; the remainder in the axillæ or extremities.

Burrows were present on the hands and between the fingers in four-fifths of the cases; on the genitals in 138 males; in 17 cases on the mammæ. In 28 cases burrows were present on the soles; 18 of these were under 5 years old and of these, 5 were less than 1 year old. In one case they were on the back, in 25 in the axillæ and flexures of the elbows, and in 13 in the umbilical region. Burrows could not be found in 210 cases, of whom 20 were children.

In over three-fourths of the cases, the skin manifestations consisted of papules, mingled with more or less numerous scratch marks. There were pustules in 221 cases, relatively more frequent in females, owing to their more tender skin; 80 of these 221 were children; most of the remainder were between the ages of 15 and 25. The pustular eruption was in most of the cases (144) situated on the forearms and hands, especially in children; in 23 on the feet and legs, in over 20 on the buttocks and tuber-ischii; in the remainder, on the rest of the body. The eruption was impetiginous in 15 cases, of whom 10 were children.

Furuncles were present in 30 cases; in 11 on the legs and feet, in 5 on the nates, 4 on abdomen, 4 in the axillæ, and 6 on the forearms and neck.

Abscesses developed in 3 cases; in a 7 year old boy in the right groin, in a 1½ year old girl in the left axilla, and on the thighs and buttocks in a 24 year old engraver.

Purulent mastitis, necessitating surgical intervention, occurred in one woman of 21 and another of 25 years. In 15 cases the breasts, and especially the nipples, were the seat of an intense eczematous and pustular eruption.

Twenty-seven cases showed no burrows nor the typical localizations of scabetic eczema; these were, nevertheless, as all doubtful cases should be, treated as scabies.

The face was involved in 8 children, 5 of whom were less than a year old. In 5 the scalp also showed lesions. Widespread pustular and vesicular lesions (involving extremities and trunk) were present in 16 cases, one-half of them in the first year of life, the remainder between the second and fifth years.

Evidences of scabies were absent on the hands in 44 cases, 35 males and 9 females; of the males, 5 were typographers and lithographers, who used turpentine and acids, 2 druggists, 2 plasterers, one student of chemistry, one physician, 3 painters, several potters and bricklayers and 2 machinists. Of the 9 females, the majority were domestics or laundresses. The absence of scabetic lesions on the hands in the above cases was most likely due to the nature of their occupations.

Widespread and marked lesions on the nates were present in 52 cases, most of whose occupations were sedentary.

The back was more or less involved in 30 cases, 21.7%.

The genitals were free from lesions in 38 males, i.e., 2%.

(To be continued.)

(Ibidem, Apr. 3, 1915, lx, No. 14.)

PULVIS FLUENS HYDRARGYRI AS A SUBSTITUTE FOR MERCURIAL OINTMENT. P. G. USSA, p. 337.

Formerly the preparation of mercurial ointment was quite an arduous task, as it required a great deal of mechanical effort to make a smooth salve, free from metallic particles. The author points out that in the presence of loosely com-

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bined oxygen and much air, the mechanical labor can be much lessened and a smoother salve result. Metallic mercury was rubbed up with lycopodium, which had previously been soaked in oil of turpentine; in this way a smooth, yellowish gray powder was produced, free from metallic particles, both macro- and microscopically. From this powder mercurial salves can be made, or the powder can be used as such; as a dusting powder for chancres or ulcerated syphilides or pediculosis pubis; for the last it is a good prophylactic as well as therapeutic agent; or the powder can be rubbed in just like the ointment in the routine treatment of lues. The powder can be made flesh colored by the addition of a little cinnabar.

CONTRIBUTION TO THE STATISTICS OF SCABIES, BASED ON 2,470 CASES TREATED IN THE LEIPZIG SKIN CLINIC FROM 1903 TO 1910. KARL WILKE, p. 344. (*Continued.*)

The lower extremities were the seats of a widespread eczematous eruption in 21 women. In 15 women the mammæ were specially affected in the form of pustules or eczema.

In several patients the lesions were most numerous over areas subjected to pressure, as by trusses, crutches, etc. In only one case, that of a stable attendant, was an animal (horse) the probable source of infection. A large majority of the patients were young, strong and healthy individuals. There were no deaths.

In 3 men, 6 boys and 81 young women pediculosis capitis was present. In 22 cases (16 men and 6 women) there were pediculi corporis; most of the men were elderly, 8 of them were between the ages of 50 and 70; 21 men and 10 women had pediculosis pubis, as well as maculæ cœrulæ.

Excoriations from bedbug bites were present in 1 case.

Undoubtedly a not inconsiderable number of patients contract scabies as well as venereal diseases from coitus impurus. One patient stated that he noticed pruritus and ulcera mollia at the same time after coitus.

Scabies and gonorrhœa together were noticed in 76 cases, 51 males and 21 females; among the 51 men were 8 students. Among the 25 females there were 19 prostitutes and three children.

Chancroids and scabies were found together 13 times, in 9 men and 4 women; in 7 cases there was also inguinal bubo.

Syphilis was present in 56 cases, of whom 29 were females; of these 20 were prostitutes. In 4 the lesions were primary, in 12 there was leucoderma colli; in 8, tertiary lues was present.

In two cases of measles, 2 and 3 years old respectively, the scabetic lesions disappeared with the onset of fever and reappeared during convalescence. In 4 children the scabies was first noticed during convalescence from scarlet fever or measles, but had most likely existed previously to fever and had escaped notice.

Urticaria was associated with scabies in 7 males and 2 females; in several other cases dermatographismus was present, but no wheals.

Eczema and scabies were associated in 15 cases; in one case there were three outbreaks of acute generalized eczema, in a period of 11 months.

Only one-eighth of the patients sought admission to the hospital within 14 days of the onset of their symptoms. Most of them waited 3 to 6 weeks; 92 patients, among whom were 30 women, waited 3 months; of these, half had no previous treatment; 22 patients (15 men and 7 women) had their scabies 6 months; 5 of these had been untreated; 10 had scabies for a year, of whom 3 were untreated previously. Two patients held the record, one with a duration of 1½ years and the other 2 years; both had received treatment on and off.

Three hundred and ten patients had had treatment elsewhere, before admission to the hospital; 15 of these were treated by internal medicine, laxatives, arsenic.

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etc.; others with baths, soaps and lotions of various kinds; 28 had had useful anti-scabetic remedies, styrax in 10 cases and Wilkinson's ointment in 5.

Thirty-nine patients had been previously treated in various polyclinics; 215 had attempted to treat themselves; among the remedies they used were soaps, baths, teas, salicyl, alcohol, vinegar, vaseline, glycerine, lanolin, boric acid ointments, olive oil, and some better informed patients tried epicarin, naphthol, nicotin, and creolin soaps and Balsam of Peru.

The remedies used in the clinic were:

Unguentum Wilkinsonii in 2,142 cases.

Sulphur paste (Yamada) in 268 cases.

Balsam Peru in 8 cases.

Styrax in 3 cases.

10% Tar-oil in 2 cases, and a few others.

As is seen above, Wilkinson's ointment was used in most of the cases; even in the majority of children, without ill effects. As a rule only 4 to 6 rubbings were necessary, seldom 10 to 12. After the rubbings, powder was used. On eczematous or excoriated areas, Lassar's paste was used. The average length of treatment with Wilkinson's ointment was 6 to 7 days.

One hundred and forty-two patients (98 men and 44 women) were readmitted after a longer or shorter time; 20 were readmitted more than twice. A 13 year old boy came 15 times in the course of 1½ years for recurrences.

Most of the cases of recurrences were due to new infections, as a result of return to unhygienic conditions.

(*Ibidem*, April 10, 1915, lx, No. 15.)

A CASE OF SYRINGOCYSTADENOMA. GUSTAV STUMPKE, p. 362.

A 36 year old clerk, in good health, had the eruption for 3 years. It consisted of pea-sized, distinctly elevated, rounded efflorescences of a brownish color. The lesions were on both sides of the thorax and abdomen; the mid-line was free. Face, neck and extremities were not involved. The lesions were in the corium and movable with the skin; their surfaces were smooth, the overlying epidermis slightly tense. The surrounding skin was intact. The lesions were quite close together, especially on the abdomen, but there was no distinct grouping.

Microscopically most of the preparations showed round or oval cysts of various sizes, filled with a colloid mass. In a few of the specimens there were no cysts at all, but only compact masses of cells; in the centre of these masses the cells stained poorly or not at all, and gave the impression that these were the fore-runners of the colloid stage. Some of the cysts were united by these cell columns. The lesions were situated just beneath the epidermis and in the middle of the corium, not deeper. The shape of the cells is polygonal in the nests, and flattened in the cysts. The contents of the cysts are cell detritus. There is considerable cellular infiltration in the cutis, most marked around the cysts and cell nests; the cells of this infiltrate have lost the spindle shape of connective tissue cells and have large, vacuolated nuclei. The borders between healthy and involved tissue were in most sections sharply defined. In one section the cells lining the cyst walls were distinctly vacuolated; around some of the cysts there was a concentric layer of connective tissue. There was a considerable amount of pigment irregularly distributed throughout the rete Malpighii; the areas of distribution of this pigment bore no relation to the situation of lesions in the cutis. No blood-vessel changes were found.

There was no apparent relationship between the cysts or cell columns to the sweat glands or their ducts; in one of the preparations a cyst was found entirely within the epithelium. As to the pathogenesis of this affection, the author inclines to Gassman's view, viz.: that there is a downward proliferation of epithelium into

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the cutis and secondarily cystic degeneration of the proliferated epithelium; in other words, a benign epithelioma. The opposing view, viz., that the origin of the process is from sweat glands or their ducts or from blood vessels, could find no confirmation from the appearance of the sections.

(*Ibidem*, Apr. 17, 1915, lx, No. 16.)

HOSPITAL GANGRÆNE. F. TRENDLENBURG, p. 385.

Whether hospital gangræne has been observed in this war is uncertain; the cases of gangræne reported are most likely either traumatic or due to the bacillus of malignant œdema. The clinical picture of hospital gangræne is so characteristic as not to be easily forgotten when once seen.

The onset is sudden, with fever and at times with a chill; the hitherto granulating wound becomes intensely painful, and surrounded by a broad red or purple areola; the granulations become livid and prominent and covered with a yellowish pseudo-membrane, removal of which causes the granulations to bleed. The base of the wound has a variegated, marbled appearance. In a few days the affected tissues become brown or black and gangræne rapidly spreads circumferentially and deeply in the case of a gunshot wound and the wound exudes a brownish, ichorous and hæmorrhagic discharge. The gangræne spreads along the connective tissue spaces, and not infrequently lays bare the large nerve and arterial trunks and severe hæmorrhages may result. There are no metastases; the lymph glands are slightly or not at all affected.

In severe cases, unless the affection is controlled by proper treatment, death ensues from septic intoxication or hæmorrhage. After apparent standstill, one or more recurrences frequently occur. Some cases begin with ulceration, others with pustules, which become gangrænous. The infection may occur in a non-granulating or in a very slight wound.

Hospital gangræne has been observed from the time of Hippocrates on, and was constantly present in all wars up to the antiseptic era; since then it has become a rarity. The affection is contagious and can be transmitted by inoculation. Mild cases may recover with indifferent treatment. The most efficacious treatment is thorough cauterization with a hot iron; this must be applied until bleeding results from the normal tissue; improvement in both local and general symptoms, under this treatment, is very rapid.

In 1893, Vincent found, in a case of hospital gangræne in Algiers, a slender, straight or slightly curved bacillus in the affected tissues. Inoculations into rabbits caused gangrænous ulcers. At times spirilli are associated with these bacilli. Further observations are necessary to establish their ætiological rôle.

(*Ibidem*, Apr. 24, 1915, lx, No. 17.)

CONTRIBUTION TO THE HISTOPATHOLOGY OF THE ANIMAL SKIN.

LOUIS MERIAN, p. 409.

1. "Brock" (Crusted Eruption) of the Young Pig. This is an eczematous eruption affecting young, poorly nourished pigs; it may begin on any part of the skin and from there spread over the entire surface. It is easily communicable; several pigs of a litter as well as the teats of the mother may be affected. Itching is intense. There is at first erythema, with swelling of the skin, then vesicles and finally yellowish crusts, becoming black from dirt. As the nutrition of the animal improves, these gradually subside, and final healing is preceded by a long-continued scaling. The general condition of the animals is either unaffected, or there may be loss of appetite, depression, spasms or swelling of the knee or ankle joints. Treatment consists in suitable nutrition and cleanliness.

A section from the ear of a young pig showed the horny layer normal in some

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parts; in other areas there was marked hyperkeratosis, with separation of the horny layer from the underlying epidermis, the space between being filled with serum. In one place there was crust formation, consisting of a network of fibrin, horny lamellæ and serum, in which were leucocytes and mulberry-shaped masses of cocci, the morococci of Unna. In the prickle cell layer there was marked acanthosis and spongiosis; the acanthosis was very pronounced in the mouths of the hair follicles; in the latter there was an infiltration of morococci between the hair shaft and root sheath and a leucocytic infiltration around the whole, without, however, any true pus formation. The author believes that this microscopical picture is probably characteristic of this disease.

(To be continued.)

CONCERNING THE SENSITIVENESS OF THE SKIN TO ADRENALIN AND PITUITRIN. (Preliminary Communication.) A. JOSEFESON, p. 413.

Injections of very weak dilutions of adrenalin and also of pituitrin into the skin were made after the manner of the von Pirquet test for tuberculosis. The edges of the puncture became markedly pale and wrinkled, later becoming red and swollen. The characteristic of the reaction is the pallor; this was produced by adrenalin as weak as 1 to 200,000 or 1 to 300,000, in other words, an amount of adrenalin so minute as not to be detected by chemical reagents. The reaction was more marked when adrenalin and pituitrin were combined. Applications to the skin, without producing a puncture, were negative, as well with cocaine as with adrenalin and pituitrin. Injections with blood serum and with cerebrospinal fluid caused only a redness, but no pallor. That the vasoconstriction was not due to cholin, which is present both in adrenalin and pituitrin, was evident from the fact that the injections of it produced only redness, but no pallor. No observations were made as to the duration of the reaction. The author suggests injection into the skin as a biological test of the efficacy of preparations of adrenalin or pituitrin.

(Ibidem, May 1, 1915, lx, No. 18.)

CONTRIBUTION TO THE HISTOPATHOLOGY OF THE ANIMAL SKIN.

LOUIS MERIAN, p. 433. *(Continued.)*

2. *Acarus* or *Demodex* Eruption.

This is a communicable disease, caused by an *acarus*, and found especially in dogs, cats, and, to a less extent, in cattle, goats and other animals. A few cases of human infection have been reported. The body of the *demodex* is cylindrical, about 0.3 mm. long, pointed posteriorly and finely striated. The head is horse-shoe shaped. There are either three or four pairs of short feet furnished with claws, on the ventral aspect of the body. Clinically, two forms of the disease are recognized, a squamous and a pustular, between which there are intermediary forms. The disease is difficult to cure.

A section taken from the scalp of a dog and cut parallel to the hair follicles showed loss of almost all the hair. The hair follicles were considerably deepened and widened and in their lower parts were acari, in varying number, lying with their heads pointed downward in a horny mass derived from the epithelial root sheath. In some parts the acari invaded the ducts of the sebaceous glands, causing a destruction of gland tissue and a cystic dilatation of the ducts. In the papillæ the blood vessels were dilated and surrounded by a mast-cell infiltration. In the cutis, especially around the blood vessels, were many plasma cells and transition forms between the latter and spindle cells, and also many mast cells.

The author considers the pustular form to be a result of secondary infection with staphylococci, and believes that marasmus and death of the animals is caused

by their toxins and not by the acari alone. Cure is difficult because of the inaccessibility to remedies to the deep-seated lesions.

(*To be continued.*)

(*Ibidem*, May 8, 1915, ix, No. 19.)

A CASE OF RESORCIN POISONING FROM EXTERNAL USE OF THE
REMEDY. C. BOECK, p. 449.

A sixteen year old, poorly developed and weakly boy, who since the age of 3 years had a lupus vulgaris which spread till it covered both left upper and lower extremities, had previously been treated with a 27% resorcin paste without any ill effect, except some pain for a short while after application. On Nov. 20, at 10.30 A.M., a 25% resorcin paste (formula used was resorcin, talc, aa 15, gelanthum 30), was applied to the greater part of the left calf. One-half hour after the application he began to complain of pain, and became restless. An hour later he was unconscious, cyanotic, and there were spasmodic twitchings of the right arm. Pulse was 120, temperature 37.8° C. About 12.45 P.M., there were contractions of the facial muscles and clonic contractions of the right arm and thigh and the left half of the body. The muscles of the jaw were tonically contracted so that the mouth could be pried open only with difficulty. The pulse rose later to 150 and the respirations were frequent. During the spasmodic attacks, respiration ceased for about one minute, then became superficial and gradually deeper. The pupils were at first dilated, later contracted. The spasms and unconsciousness lasted till 5.00 P.M.; there was a slight improvement at 7.15 P.M., but exitus occurred at 8.15 P.M.

An autopsy performed the following morning revealed a marked œdema of the brain, with compression of the convolutions. The kidneys were hyperæmic, otherwise normal. The urine, which was passed spontaneously, immediately after death, could not be examined. There was a widespread tuberculous adenitis, and recent foci of tuberculosis in the apices of both lungs. Microscopical examination of the brain showed dilatation of the lymph spaces.

The clinical picture of resorcin poisoning is characteristic. The author quotes from the literature two cases of poisoning with recovery and one fatal case in an eleven day old child, in which a 3% resorcin salve had been used. This, and his own, are the only fatal cases the author knows of. This accident was a great surprise to the author, as the paste was applied to an intact epithelium; moreover, he had for many years used a 33% resorcin paste without any ill effects and considered it a harmless preparation. Without chemical remedies, no progress can be made in the treatment of a widespread lupus vulgaris. The author had used resorcin instead of pyrogallic or salicylic acids because he believed it to be the mildest remedy of the three, and still believes that resorcin is the sovereign remedy for lupus of mucous membranes. In applying resorcin to an abraded skin, he suggests a preliminary wet dressing of 5% novocaine for five minutes, followed by an application of a thick layer of anæsthesin.

CONTRIBUTION TO THE HISTOPATHOLOGY OF THE ANIMAL SKIN.
LOUIS MERIAN, p. 454. (*Continued.*)

3. Mange (Scabies).

Wild as well as domesticated animals are affected, and it is most frequent in sheep, horses and dogs.

Sarcoptes Eruption in the Cat.

The disease usually starts on the ears and then spreads to the paws, head and rest of the body. The primary lesions are small papules resembling flea bites; these later become vesicular, are ruptured by scratching and dry into thick brown

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crusts; the surrounding skin is swollen and reddened; the hairs become disarranged and fall out. The affected animal refuses nourishment, emaciates and dies. The disease is communicable to man (usually by the cat sleeping in a bed occupied by a person); the author quotes several instances of such transmittance from the literature.

The section to be described came from a cat whose ears and head had been the seat of the eruption for several weeks. There is marked acanthosis of the prickle-cell layer and a hypertrophy of the horny layer. The hair follicles show acanthosis of the prickle-cell layer and they are surrounded by a mast-cell infiltration and dilated blood vessels. In the basal cell layer of the cutis the young acari are seen; in the hypertrophied horny layer are older acari, many eggs and fæces. A similar histological picture is found in scabies *Norvegica* of the human.

(To be continued.)

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(May 20, 1915, xli, No. 20.)

Abstracted by CLARENCE ALLEN BAER, M.D.

EXPERIENCES WITH THE FRANKENSTEIN MERCURY INHALATION APPARATUS. GUSTAV STUEMPKE, p. 616.

The author states that this inhalation apparatus of Frankenstein's does not embody any new principle. This method might be used in addition to combined salvarsan-mercury treatment of syphilis, or it might be used as a substitute for same, but it is a question whether this method of mercury administration could be substituted for any other. The only way a proper idea of the value of this method of mercury application could be obtained would be by using only mercury inhalations and no other form of syphilis therapy.

In the primary syphilis treatment of chancres, the inhalation of mercury has been very unsatisfactory. Secondary skin manifestations of syphilis disappear rapidly under this form of treatment. Mucous patches yield rapidly. Ulcerative tertiary processes yield under this method of treatment, but the healing is very slow, although the scars formed are more soft and elastic than by other methods.

The most brilliant results were obtained, however, on the Wassermann sero-reaction, which invariably became negative under this form of treatment. It is not known how long this negative Wassermann would last. The same precautions against mercurialism must be taken with this method as with any other method of administering mercury. The body weight is increased during the treatment. Men can stand this method of application of mercury better than women. Diuresis is increased. One patient, who invariably showed albumin in the urine after mercury injections, remained albumin free during this method of treatment. The patient found the method of application agreeable.

Patients inhale the mercury vapors daily, for six days in succession, with a pause on the day following, or they inhale every other day, or patients are treated for four days and then rest for four days. The last method was used with very large doses of mercury, the second when the patient did not bear mercury well; the first was the method used with the normal patient. Patients received from 0.1 to 0.4 gm. daily.

The length of time for the series of treatment by inhalation varies, depending on the patient, from 4 to 6 weeks.

The work of the Frankenstein inhalation method does not rest on the idea of the inhalation, but on the fact that this method can be used by the practitioner

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without any difficulty. The Frankenstein method offers a method of exact dosage, is easy of use, and is pleasant for the patient.

(*Ibidem*, June 3, 1915, lxi, No. 23.)

CONCERNING THE TAR TREATMENT OF CHRONIC ECZEMA. THE- DERING, p. 681.

This communication is an answer to an article by Chajes in No. 16 of this Journal. Thedering states that one must differentiate between therapeutic and toxic irritation of the skin by tar preparations, just as that differentiation is seen in Roentgen therapy. In circumscribed chronic eczema, tar treatment and soap must not be used together, but generalized chronic eczema is often improved by tar soap baths. Moist, chronic eczemas are benefited by the use of coal tar.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(Dec. 8, 1914, lxi, No. 49.)

Abstracted by A. W. STILLIANS, M.D.

CONCERNING THE DISTRIBUTION OF CHOLIN IN THE BODIES OF ANIMALS. P. ELLINGER, p. 2336.

Rabbits and dogs, given one of the salts of cholin intravenously or by mouth, were subjected to thorough chemical examination to determine in what organ or organs cholin is deposited. All the experiments, 14 in number, agreed in showing by far the largest amount of cholin in the skin. Smaller amounts were found in some of the animals in the adrenals and ovaries and in the saliva. In male animals the testicles showed measurable amounts. Other organs and parts of the body showed none or only traces. Rat tumors, which showed no cholin before they began to break down, showed, after they had begun to degenerate, approximately 0.01 gm. of cholin. After the tumor rats had received injections amounting to 0.1 gm. cholin chloride, their tumors contained from 0.0185 to 0.0413 gm. cholin.

The author submits the fact that so large a part of the injected cholin localizes in the skin, as an explanation of the increased sensibility of the skin to X-rays after injections of salts of cholin. Its accumulation in the ovary, testicle, suprarenal gland and tumors would suggest the sensitizing of these tissues also.

INFLUENCE OF OXIDATION AND REDUCTION ON THE ACTIVITY OF SALVARSANIZED SERUM. A. STUHMER, p. 2338.

In order to determine why the strength of salvarsanized serum is increased by heating it, the author tried oxidation, with the effect of increasing its power somewhat, but not nearly so much as was accomplished by heating. Reduction of fresh salvarsanized serum had no effect on its strength, but reduction of heated serum had the effect of counteracting the beneficial action of the heating.

He concludes that oxidation cannot take the place of heating salvarsanized serum. The benefit of heating is probably due to the setting free of small amounts of salvarsan in the form of an oxide, as reduction destroys this added power. The proportion of this combined oxide of salvarsan to the unchanged salvarsan in the blood increases after the third day following the intravenous injection, until on the fifth day the activity of salvarsanized serum depends on the combined oxide alone. It is bound to some constituent of the blood, possibly the urea. Whether it is freed in the body as well as by heating the serum cannot be

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stated. Perhaps this synthetic combination is a normal protection against the toxic action of salvarsan.

(*Ibidem*, Dec. 15, 1914, lxi, No. 50.)

TREATMENT OF A CASE OF SENILE GANGRÆNE WITH ULTRA-VIOLET RAYS. A. KRISER, p. 2368.

After months of excruciating pain, a man of 60 years, with a blood pressure of 165, was about to have his foot amputated for senile gangræne of the toe due to occlusion of the dorsal artery of the foot. With the hope of reducing his blood pressure the author gave him a treatment with the quartz lamp. Following this treatment there was so marked a recession of the pain that amputation was postponed. Further treatments produced a lasting reduction of the blood pressure and abolished the pain. Separation of the gangrænous area and healing of the ulcer occurred in about two months. During each treatment the pain became worse, later receding. The heat of incandescent lamps was also used. In view of its effect in lowering blood pressure and relieving pain, the author thinks that a trial of the treatment should be made in every case of beginning senile gangræne.

(*Ibidem*, Dec. 23, 1914, lxi, No. 51.)

THE TREATMENT OF FORMALIN ECZEMA. O. THILO, p. 2841.

The author worked for eight years in 2 and 3 per cent. solutions of formalin without any trouble, but then suddenly developed a dermatitis of the hands which kept him from working for two months. At the end of this time his hands were well, but a return to the practice of medicine caused a prompt recurrence, although formalin and all other irritants had been carefully avoided. At a loss to know what to do, he tried fine sand-paper as a means of opening the vesicles and smoothing down the edges of the fissures. Covering the moist areas with gauze, he put on soft cotton gloves. After a few days of this treatment, using the sand-paper at night and keeping his hands out of water, the skin seemed to become more resistant and in a few weeks he returned to work and is now able to do orthopædic metal and leather work. He uses sand also in place of a brush for scrubbing his hands. When he must use rubber gloves he is careful to wear cotton gloves under them.

(*Ibidem*, Jan. 5, 1915, lxii, No. 1.)

COMPLEMENT BINDING IN VARIOLA. A. VON KONSCHIEGG, p. 4.

The experience of the author agrees with that of Klein, reported in the *Muenchener medizinische Wochenschrift* of Nov. 24, 1914, lxi, No. 47. The antigen made of variola crusts was far more active than that made of animal lymph or alcoholic extracts of skin, spleen or liver of a victim of variola. All cases of variola gave a positive reaction, while two cases of varicella were fully negative. A fatal case of variola showed a distinct decrease of antibodies just before death. His antigen, like that of Klein, was destroyed by boiling, in contrast to the bacterial antigens.

(*Ibidem*, Feb. 2, 1915, lxii, No. 5.)

ON THE TREATMENT OF SYPHILIS WITH COPPER-SALVARSAN. J. FABRY and J. SELIG, p. 147.

Copper-salvarsan (Cu_3) contains about 24% arsenic and 11.6% of copper. Short case histories of 56 luetics treated with 2 to 7 intravenous injections of the

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new drug do not show any startling superiority over its predecessors. Its effects are obtained with a total content of arsenic much smaller than that of the older preparations, as the dose of Cu_3 is only 0.1 gm. The solution of copper salvarsan is very difficult to make.

THE INTRAVENOUS TREATMENT OF LUPUS WITH COPPER-SALVARSAN. J. FABRY, p. 149.

Seven cases of advanced lupus vulgaris were treated by intravenous injections of Cu_3 without causing local or general reactions and without any benefit.

A PECULIAR CASE OF ANAPHYLAXIS TO FLY BITES. WEBER, p. 151.

A healthy man of 40 years of age was bitten on the finger by a fly, which from his description was probably one of the Tabanids (horse flies). He at once became dizzy, cyanotic, dyspnoic, and almost pulseless. When seen soon afterward by the author, his face was still very red, conjunctivæ injected, pupils small, equal and slow in reaction, pulse small and rapid and the patient delirious. On the next day he was enough better to be able to tell that he had had a similar experience six years previously. The wound showed only a tiny puncture with a hyperæmic areola. Two days later a distinct, itching wheal had formed, which lasted only a short time.

The bite of these flies usually causes a large wheal, increased in size by rubbing in response to the intense itching, and may take two weeks to subside wholly.

Another very interesting case of anaphylactic phenomena from mosquito bites is quoted from Féré, in Paris.

(*Ibidem*, Feb. 9, 1915, lxii, No. 6.)

CONCERNING SALVARSAN NATRIUM. WECHSELMANN, p. 178.

Salvarsan natrium is a new salvarsan modification, No. 1206A. It corresponds to a solution of old salvarsan after it has been made slightly alkaline with sodium hydrate solution, and contains, like neosalvarsan, 20% of arsenic, but its effects are supposed to be greater than the same dosage of neosalvarsan. Over old salvarsan it has the advantage of easy solubility. Because of its alkalinity it is not adapted to intramuscular or subcutaneous injection. Like neosalvarsan, it is quickly oxidized when exposed to the air, its golden yellow color changing to brown, its solubility decreasing and its toxicity increasing.

The author has found, in 18 months' experience with the new drug, that doses of 0.3 to 0.45 gm. are safe for all stages of lues, given in the ambulatorium. In this time he has seen only four of the so-called anaphylactic reactions, and these very mild ones. Two cases have reacted with morbilliform eruptions.

Nephritis, whether syphilitic or not, is not a contraindication if the Schlayer test of kidney function shows that the ability of these organs is not much impaired. In albuminuric cases he prefers to give several epifascial injections of neosalvarsan before starting intravenous treatment. He claims that the combined use of mercury and salvarsan is harmful in at least 50% of the cases. The above dosage of salvarsan natrium two or three times a week, up to 40 or 50 injections, is not harmful, and is enough for most cases.

Recurrences have been rare, though the time has been too short for a judgment on this point. Generalized papular eruptions need especially intensive treatment, but these, as well as the plantar syphilide so resistant to mercury, yield to persistent use of salvarsan natrium. The effect on the Wassermann reaction in the blood and spinal fluid of the old cases has been sometimes prompt, sometimes negative. Attempts to use salvarsan natrium in concentrated solution

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have caused unpleasant reactions, so that he always uses 100 times the quantity of 0.4% salt solution, 10 cc. to each 0.1 gm. of the drug. In his description of the technique he warns against using cotton stoppers in the glassware while sterilizing it, for fear of cotton fibres and dust being left in the vessels and getting into the solution. He filters the solution of the drug through wet cotton to remove all minute solid particles.

SALVARSAN NATRIUM AND ITS USE IN PRACTICE. G. L. DREYFUS.
p. 178.

The author has long been injecting old salvarsan in a one or one and a half per cent. solution. This method he has applied to the new drug with great success. He uses doubly distilled water as a solvent. He has given over 450 doses, practically all to cases of lues of the central nervous system, seldom exceeding 0.45 gm. to a dose, but repeating the injections three times a week when giving salvarsan natrium alone, or twice a week when combined with mercury. Over 100 such injections, given to ambulant patients, have caused no trouble. The patient is required to keep quiet the evening following the injection, but is allowed to go to work the next morning. By careful dosage with respect to the nature of the case and the condition of the patient he has had very few reactions, none more than slight rise of temperature, diarrhoea or vomiting.

A CASE OF GENERAL HAIRINESS WITH HETEROLOGOUS PRECOCIOUS PUBERTY IN A THREE-YEAR-OLD GIRL. W. HERZOG,
p. 184.

A case of generalized pigmentation and hypertrichosis developing in a girl two years old, with deepening of the voice, rapid muscular and mental development. Classed with the cases called by Alban secondary hermaphroditism.

(To be continued.)

(Ibidem, Feb. 16, 1915, lxii, No. 7.)

UNUSUAL COURSE AND COMPLICATIONS OF PLAUT-VINCENT INFECTIONS OF THE PHARYNX AND MOUTH. F. REICHE,
p. 219.

In the author's service in the general hospitals of Hamburg-Eppendorf and Hamburg-Barnbeck during the past twelve years, he has seen 139 cases of Plaut-Vincent infection, against 4,052 cases of acute simple angina. In the latter part of this period he has seen 23 cases in which the Plaut-Vincent infection occurred in diphtheria carriers, and one case in which it complicated diphtheria. In addition to the pharynx, the gums were involved in 41 cases, the tongue in 12, the buccal mucous membrane in 8, and the naso-pharynx was once involved with the pharynx and once almost alone.

He reports a case in a 19-year-old girl in which the disease, in about six weeks, destroyed practically all the uvula and a large part of the soft palate. No history or sign of lues could be found and the Wassermann test was negative. The general depression was very great and the headache continuous and excruciating, not at all affected by pyramidon and bromides. A marked leukopenia, considerable temperature and an enlarged spleen made a differential diagnosis from typhoid necessary. Blood cultures were negative. The appearance of an abducens paralysis with a disturbance of accommodation caused a suspicion of meningitis, but all other signs were negative. The author has seen paralyses in various nerves in these cases where diphtheria could be excluded. Most commonly

paralysis of the palate, he has seen one case of paralysis of the lower limbs from this infection.

The leukopenia lasted three weeks, with a count of 2380 on one occasion, and on another the percentage of polymorphonuclear neutrophils was only 18. Besides the toxic peripheral neuritis, the fever and the splenic tumor seen in this case, the toxine of this infection sometimes causes nephritis and myocardial lesions.

A CASE OF GENERAL HAIRINESS WITH HETEROLOGOUS PRECOCIOUS PUBERTY IN A THREE-YEAR-OLD GIRL. W. HERZOG, p. 225. (*Continued.*)

In continuation of his article, the author discusses the ætiological possibilities of his case. Both tumor of the pineal gland and hypophysial tumor are unlikely because of the entire lack of brain symptoms and because of the heterologous sex characteristics developed. Hypophysis tumor develops only in later years and is to be shown in the skiagraph. The Roentgen picture of this case is entirely negative. No sign of tumor of the sexual organs is present. The case agrees best with those described by Apert as hirsutian. Five types are given, of which only three are of interest here.

A. Appearing during the period of sexual activity. Three cases have been reported, all in women, whose symptoms were: cessation of the menses, great increase of fat, growth of a beard and greatly increased growth of hair. One of these cases recovered after removal of a tumor composed of suprarenal cortical tissue surrounding the left ovary. Both other cases died.

B. Appearing in childhood. Precocious puberty and bodily development, hypertrophy of the clitoris, increase of fat and growth of hair and development of heterologous secondary sexual characteristics are the symptoms. Of 14 cases, all of whom came under treatment, 8 were girls, 3 boys and 3 unknown.

C. Appearing during the embryonal period. The author places his case under type B, lacking the pathological finding of a tumor of the adrenal cortex, which may appear later, as in the case recently reported by Jump, which began in the first year and came to operation in the seventh year. All the cases cited by Apert had tumors of the adrenal cortex.

ZEITSCHRIFT FÜR BEKÄMPFUNG DER
GESCHLECHTSKRANKHEITEN.

(Apr., 1915, xvi, No. 4.)

Abstracted by MAX SCHEER, M.D.

THE EFFECT OF VENEREAL DISEASES ON THE HEALTH AND
FECUNDITY OF WOMEN. MAX FLEISCH, p. 121.

The author calls attention to the effect of syphilis on the sexual organs of children who have inherited the disease. Often in such cases there is a lack of development of the female reproductive organs, a hypoplasia of the ovaries and uterus, as a result of the inherited luetic taint.

It appears that syphilis has a deleterious effect on the germ plasm, similar to alcohol. Syphilis can thus cause a fall in the birth rate, not only by its direct effects on the woman (e.g., abortions, premature births, etc.), but also indirectly, by its effects on the reproductive organs of those with the inherited disease.

JAPANISCHE ZEITSCHRIFT FÜR DERMATOLOGIE
UND UROLOGIE.

(March, 1915, xv, No. 3.)

Abstracted by MAURICE F. LAUTMAN, M.D.

THE FEVER THERAPY OF DISEASE. NAKANO, p. 18.

The author, in explaining the beneficial effects of warm cataplasms on localized inflammations, calls attention to the fact that syphilitics who developed an acute infectious disease during the first year after the initial lesion, never developed paresis and conversely no paralytic gave a history of having had an infectious disease during the year following his initial lesion.

CONTRIBUTION TO THE CLINICAL AND PATHOLOGICAL STUDY OF
SCABIES NORWEGICA, BOECK. IJIRI, p. 20.

The author's three cases of this disease showed the innumerable eggs and larvæ of the *sarcoptes hominis* in the thickened horny layer of the skin and were of 27 years', 20 years', and 2½ years' duration, respectively. Areas subjected to pressure and rubbing as well as the nails showed a greater tendency to be affected than in ordinary scabies. Histologically, distinct acanthosis and chronic inflammatory changes in the cutis, with well marked hyper- and parakeratosis were present. There was an eosinophilia of 12% and positive complement fixation reaction was present in Cases 2 and 3, using the crusts containing parasites as antigen.

ARTIFICIAL SUNLIGHT IN DERMATOLOGY. FUJITANI and NAKAYAMA,
p. 21.

(*Ibidem*, April, 1915, xv, No. 4.)

TRICHOPHYTIA PROFUNDA AND ITS ÆTIOLOGY. KEOKE and MESHIMA,
p. 279.

ACQUIRED SYPHILIS IN CHILDREN. MURASAWA, p. 292.

THREE CASES OF PURPURA. YAMADA, p. 298.

The first case occurred in a jaundiced man and disappeared with the jaundice. The second showed at autopsy a Laennec's cirrhosis of the liver and the third occurred in the course of an acute articular rheumatism which proved fatal from mucous membrane hæmorrhages.

(*Ibidem*, May, 1915, xv, No. 5.)

LUPUS MILIARIS DISSEMINATUS FACIEI. DOIHI, p. 26.

Dohi describes, under the above name, a condition of 7 months' duration in a girl of 15 who is otherwise normal in every respect. The Pirquet tuberculin and animal inoculation tests were negative and tubercle bacilli could not be demonstrated in the tissues. However, the histopathological picture is very suggestive of tuberculosis; after numerous injections of old tuberculin, the eruption improved considerably, though new lesions made their appearance.

ANNALES DES MALADIES VÉNÉRIENNES.

(May, 1914, ix, No. 5.)

Abstracted by PAUL E. BECHET, M.D.

SYPHILITIC ANGINA. GAUCHER and CESBRON, p. 321.

Gaucher and Cesbron believe that angina pectoris originates either from disease of the coronary arteries or neuralgia of the cardiac plexus, and those cases in which the coronary arteries are involved are almost invariably syphilitic. Syphilis rarely attacks the coronary arteries primarily; usually the condition is secondary to a specific aortitis, the patients usually first presenting symptoms of aortitis, arteriosclerosis and renal changes. The anginal syndrome is therefore almost always associated with symptoms of aortitis and myocarditis. Syphilitic angina is usually a tertiary manifestation, but it may make its appearance in the secondary period. It is usually observed from 20 to 35 years after the primary lesion and is more frequent in men; of 7 cases recently observed by Gaucher, 5 were in men, ranging in age from 43 to 57 years. They do not believe in the existence of false angina, and think the term will eventually disappear from medical literature. Specific treatment invariably relieves, and frequently prevents the paroxysms, but of course it is possible for the patient to die from disease of the heart or aorta, while apparently cured of his anginal attacks. They recommend the intravenous injection of one centigramme of cyanide of mercury, with the simultaneous administration of one centigramme of benzoate of mercury in the buttocks. Two to four grammes of iodide of potassium are given daily.

KERATOSIS PLANTARIS OF SYPHILITIC ORIGIN. COYON and BURNIER, p. 348. Case report.

HÆMORRHAGIC NEPHRITIS AND CYSTITIS FOLLOWING INJECTION OF NEOSALVARSAN. NANTA, p. 352.

Nanta reports two cases in which this complication occurred. Both cases rapidly recovered.

PERNICIOUS ANÆMIA AND SYPHILIS. NATHAN, p. 357.
Case report.

SYPHILIDE APPEARING ON A KELOID. GOUGEROT, p. 361.
Case report.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(April 10, 1915, lxiv, No. 15.)

Abstracted by WM. H. BAUGHMAN, M.D.

EXTENSIVE DESTRUCTION OF VULVA AND ADJACENT TISSUES
PROBABLY DUE TO PNEUMOCOCCIC INFECTION. C. POWELL,
p. 1239.

Case report.

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(*Ibidem*, Apr. 17, 1915, lxiv, No. 16.)

RADIUM IN THE TREATMENT OF KELOIDS. F. E. SIMPSON, p. 1300.

The results obtained by the use of radium are superior to those obtained by other methods. Two cases so treated are reported.

(*Ibidem*, Apr. 24, 1915, lxiv, No. 17.)

SYPHILIS IN CHINA. REPORT OF SOME UNUSUAL SYPHILITIC LESIONS. A. C. REED, p. 1383.

THE PRESENCE OF ARSENIC IN THE SPINAL FLUID. G. W. HALL, p. 1384.

Arsenic was not found in the spinal fluid after intramuscular and intravenous injections of various forms of arsenic. It was found in some cases as long as twenty-four hours after intraspinal injections of salvarsan and neosalvarsan.

ROENTGEN-RAY KERATOSES ON HAND OF ROENTGENOLOGIST CURED BY RADIUM. SINCLAIR TOUSEY, p. 1394.

(*Ibidem*, May 1, 1915, lxiv, No. 18.)

CONCERNING LANDAU'S COLOR TEST FOR SERODIAGNOSIS OF SYPHILIS. J. A. KOLMER, p. 1461.

The author used a smaller amount of the reagent than used by Landau. His results with the correct amount are published in a later article.

THE WASSERMANN REACTION AS A CLINICAL TEST, WITH SPECIAL REFERENCE TO ITS BEARING ON MATRIMONY. W. J. HEIMANN, p. 1463.

A positive reaction may be present in certain known diseases, other than syphilis, which can be diagnosed by characteristic features. Excluding these and the presence of certain chemical substances known to influence the reaction, a positive Wassermann reaction indicates the presence of syphilis.

Irrespective of the technique used, the great percentage of the results obtained correspond very closely, the discrepancy being due to the personal equation and the differences in technique.

The reaction is negative during certain known stages of syphilis and may be negative under other circumstances, so the mere absence of the reaction does not indicate a cure or the absence of syphilis.

Since a positive reaction, with the above exceptions, indicates syphilis, assent to marriage should not be given as long as it remains so, but only when, after an adequate course of treatment, it becomes negative and remains so for a certain period of time without any other symptoms, and is verified by a provocative treatment.

FURTHER STUDIES ON THE SPINAL FLUID WITH REFERENCE TO THE INVOLVEMENT OF THE NERVOUS SYSTEM IN EARLY SYPHILIS. UDO J. WILE and J. H. STOKES, p. 1465.

The authors' investigations show the importance of examination of the fundus oculi and of the eighth nerve in all cases of syphilis, as well as a general neurological examination.

Accepting a neuroretinitis as indicating involvement of the central nervous system, it was found to be of frequent occurrence, but not always in conjunction with demonstrable changes in the spinal fluid; either may apparently exist alone; nor does the degree of meningeal involvement indicate the severity of the nerve changes. Of those cases which gave positive neurological findings, the majority showed changes in the spinal fluid, while many of the cases without neurological symptoms also presented evidence of meningeal reaction in the fluid.

Early central nerve involvement was relatively more frequent in women than in men. Cases of severe alopecia, and follicular, pustular, or pigmentary syphilides, showed the greatest percentage of cerebrospinal involvement. A marked relation was shown between severe impairment of the general health and positive changes in the spinal fluid.

Subjective symptoms were usually absent in patients with normal fluids, also in a few cases showing positive changes. Reactions following lumbar puncture occurred in some cases irrespective of whether the fluid showed involvement of the central nervous system or not.

THE INTRAVENOUS INJECTION OF MERCURIALIZED SERUM IN SYPHILIS. A PRELIMINARY REPORT. L. THOMPSON, p. 1471.

Thompson claims that the intravenous injection of mercurialized serum does not cause phlebitis or periphlebitis, and that quick results are obtained by its use.

INVOLVEMENT OF THE EIGHTH NERVE IN SYPHILIS OF THE CENTRAL NERVOUS SYSTEM. A. W. M. ELLIS and H. F. SWIFT, p. 1471.

Sudden, or rapidly progressing, deafness in syphilitic patients is to be regarded as a manifestation of involvement of the central nervous system, and should be treated as such. Syphilis of the inner ear was probably as frequent before the advent of salvarsan as at the present time, but that the severity of this affection is more marked now seems to be indisputable, this being apparently due to a lack of sufficient medication rather than to the nature of the drug used.

The findings in the spinal fluid, at least in early cases of involvement of the auditory mechanism, seem to prove that it occurs during the course of a syphilitic meningitis. Seven cases are reported.

(*Ibidem*, May 8, 1915, lxiv, No. 19.)

A COMPARISON OF THE SWIFT-ELLIS AND MODIFIED RAVAUT INTRASPINAL INJECTIONS FOR SYPHILIS OF THE NERVOUS SYSTEM. REPORT OF TWELVE CASES. L. D. SMITH, p. 1563.

The favorable results and the absence of untoward symptoms when the original technique of intraspinal medication is used entitle patients with lues of the central nervous system to its use. The Ravaut method, invariably after the second injection, is followed by unfortunate complications.

THE TREATMENT OF PELLAGRA BY AUTOSEROTHERAPY. E. E. PALMER and W. L. SECOR, p. 1566.

All of the seven cases treated by this method have shown improvement. One cc. of serum is withdrawn from a blister, caused by irritation, and injected into the arm at from five to seven day intervals.

(*Ibidem*, May 15, 1915, lxiv, No. 20.)

MONGOLIAN IDIOCY AND SYPHILIS. H. C. STEVENS, p. 1636.

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SUBCONJUNCTIVAL INJECTIONS OF SALVARSANIZED SERUM IN OCULAR SYPHILIS. E. G. SEIBERT, p. 1649.

A report of three cases treated with good results.

(*Ibidem*, May 29, 1915, lxiv, No. 22.)

HYPERTONIC SALT AND ALKALI SOLUTION IN SALVARSAN ANURIA. R. T. WOODYATT, p. 1811.

This method of treatment was used in a syphilitic case presenting symptoms of salvarsan poisoning. Arsenic belongs to a group of drugs which produce effects on animal tissue and metabolism, resembling tissue or general asphyxia. Attending this condition is an accumulation of acids and an œdema of those parts where the action is most intense. To overcome these conditions, an alkali, to neutralize any excess of acid, and a neutral salt, to dehydrate the œdematous tissues, were given in the form of Fischer's solution, by bowel. This treatment was followed by the return of urination and a recovery from all adverse symptoms.

SYPHILIS OF THE STOMACH. A REPORT OF EIGHT CASES WITH ROENTGENOLOGIC FINDINGS. W. A. DOWNES and L. T. LE WALD, p. 1824.

Gastric syphilis is a late manifestation of the disease in both the congenital and acquired types.

In the majority of cases it appears as localized gummata, either single or multiple, but it also occurs as a generalized gummatous infiltration of the submucosa. The most frequent location is the pars pylorica, involving either the greater or lesser curvature, or both. The process begins in the submucosa and gradually spreads to the other coats, passing through the stages of infiltration, ulceration and cicatrization. Pyloric obstruction may occur because of the infiltration, cicatrization or perigastric adhesions. Either infiltration or cicatrization may cause changes in the shape and size of the stomach, which are revealed by a Roentgenologic examination. Neighboring viscera and lymph glands may also become involved.

In a general way, the symptoms of gastric syphilis differ little from those of other gastric lesions, but careful analysis shows several symptoms that are strikingly different. The pain lacks the periodicity of the average simple ulcer. It is not so much influenced by eating; it is gnawing in character, and is persistent. The vomiting is marked. Hemorrhage is not so frequent or severe. The loss in weight is extreme. The gastric analysis varies according to the nature and localization of the process. The progress of the disease is influenced but little by dieting and the ordinary methods of treating simple ulcer, and, unlike malignant processes, there is not the steady and continued progress to a fatal termination.

A Wassermann test and a Roentgenologic examination should be made in all cases of disease of the stomach.

(*Ibidem*, June 5, 1915, lxiv, No. 23.)

AN UNUSUAL CASE OF GENERALIZED NON-PIGMENTED SARCOMAS OF THE SKIN. A. SCHALEK and O. T. SCHULTZ, p. 1901.

(*Ibidem*, June 12, 1915, lxiv, No. 24.)

THE BEGINNING OF SYPHILIS. W. A. PUSEY, p. 1961.

THE LANDAU IODINE SERUM TEST FOR SYPHILIS. A. W. STILLIANS, p. 1964.

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A FURTHER NOTE ON LANDAU'S COLOR TEST FOR SERODIAGNOSIS OF SYPHILIS. J. A. KOLMER, p. 1966.

Both of the authors of the articles on Landau's iodine serum test conclude that it is of no value in that it gives a low percentage of correct positive results and a high percentage of incorrect positive results.

THE ÆTIOLOGY AND EXPERIMENTAL PRODUCTION OF HERPES ZOSTER. E. C. ROSENOW and S. OFTEDAL, p. 1968.

Basing their experiments on Rosenow's previous work on the elective localization of certain bacteria, the authors have injected intravenously into animals bacteria from various infection atriæ, with the production of herpes of the skin, tongue and lips, and lesions in the corresponding spinal ganglia. Where herpetiform lesions of the viscera were also produced, lesions were found in the ganglia of the vagus and sympathetic nerves.

The affected ganglia showed areas of hæmorrhage and round-cell infiltration; the blood-vessels were generally congested.

Gram-staining cocci were quite constantly found in the affected areas of the ganglia, but not in the normal tissue or in the blood, neither were they found in the peripheral herpetic lesions.

Two experimental cases are presented.

CHOLESTERINÆMIA AND THE WASSERMANN REACTION. E. HENES, JR., p. 1969.

From his investigations and experience, the author concludes that the cholesterol content of the blood should be considered in the interpretation of the Wassermann reaction.

(*Ibidem*, June 19, 1915, lxiv, No. 25.)

THE EXCRETION OF MERCURY BY THE GASTRIC MUCOUS MEMBRANE. C. C. LIEB and G. M. GOODWIN, p. 2041.

Three sets of experiments were made on animals. From the results obtained, it seems probable that mercury is excreted by the gastric mucous membrane.

THROMBIDIOSIS. G. M. OLSON, p. 2060.

A condition of the skin due to attacks of the red jigger or *Thrombidium irritans*. The parasite bores its way into the skin and remains there until it dies. A marked urticarial swelling, accompanied by intense itching, follows. The treatment consists of the removal of the parasite with a needle, followed by the application of tincture of iodine.

JOURNAL OF TROPICAL MEDICINE AND HYGIENE.

(Feb. 1, 1915, xviii, No. 3.)

Abstracted by R. C. JAMIESON, M.D.

THE IMPORTANCE OF TERTIARY YAWS. R. HOWARD, p. 25.

The author takes exception to the statement that there is so much syphilis in Africa, and states that a good part of these cases are now found to be yaws

instead of syphilis. The tertiary yaws comes on in a year or so after the primary yaws rash and often progresses steadily to frightful deformities.

Most cases did well with potassium iodide, only a small percentage showing relapses. It is not known as yet whether a single injection of salvarsan will cure a tertiary yaws or whether repeated Wassermann tests will be necessary as in syphilis, to decide the question of cure.

He emphasizes the importance of tertiary yaws and warns against diagnosing the condition as syphilis even though the symptoms are remarkably similar.

(*Ibidem*, Mar. 1, 1915, xviii, No. 5.)

TINEA CAPITIS TROPICALIS IN AN EGYPTIAN SOLDIER, CAUSED BY TRICHOPHYTON DISCOIDES, SABOURAUD. A. J. CHALMERS AND ALEX. MARSHALL, p. 49.

The authors give a history of the organism, and their article records for the first time the presence of this variety of fungus in Egypt. The classification is taken up in minute detail and the description of symptoms is as follows: under hairs thickly matted together with yellow crusts, the skin was seen to be red and angry, soft and pitted on pressure. Hairs were not broken but were surrounded by a white sheath containing the spores and hyphæ of the fungus. Subjective symptoms were negligible. The points above mentioned serve to differentiate and diagnose these cases. Alopecia does not result if treatment is instituted early and in this case a cure was quickly obtained by the use of tobacco soap.

The article is well illustrated with cultural growths, microscopical appearance, etc., of the fungus.

(*Ibidem*, Apr. 1, 1915, xviii, No. 7.)

PYOSIS CORLETTI IN BRITISH SOLDIERS. A. J. CHALMERS AND CAPT. A. P. O'CONNOR, p. 73.

This disease is an impetigo contagiosa bullosa described by Corlett and the article is an account of an epidemic at Khartoum. They give a historical sketch and a minute and a complete description of the organism's morphology and cultural characteristics. In their epidemic six cases occurred, which promptly cleared up under treatment. The eruption began as a small papule quickly followed by an eruption of bullæ, reaching their fullest extent in forty-eight hours. The bullæ arose from apparently healthy skin, varied considerably in size, and affected chiefly the thighs, back and chest, less on the arms, neck and legs, leaving the face and head comparatively exempt. No constitutional symptoms were noted. Vaccines and local treatment brought about prompt recovery.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(May, 1915, cxlix, No. 5.)

Abstracted by R. C. JAMIESON, M.D.

GENERALIZED TELANGIECTASIA IN ASSOCIATION WITH SYPHILIS, WITH THE PATHOLOGICAL PICTURE OF PERIPHERAL VASCULAR SCLEROSIS. JOHN H. STOKES, p. 669.

The case described by Stokes is a very rare condition and he gives a most detailed description of the morbid process. The patient was a female, aged 34 years,

with negative family history, except for the fact that her husband had probably had tabetic gastric crises. She also had severe epistaxis when a child. Nothing of any importance was found on examination.

The skin condition was of five years' duration, beginning on the feet as pink spots, gradually spreading over the legs, body and arms. The palms and face were not affected. There was no perspiration, no œdema and only slight itching and scaling. All areas of the skin were not affected alike, some having a diffuse, macular involvement, others being a deeper red, the general appearance being an arborescent, lace-like configuration of the venules. Four types of lesions were found: a mottled, dark-red flush on extensor surfaces; confluent lesions of the type of *nævus araneus*; macular; pinpoint, purplish angiomatous puncta. In addition to these types there was a pigmented area on the abdomen and involvement of the deeper vessels was seen in all regions. The Wassermann test was positive once and negative once; luetic changes were found in the ear as well as a neuroretinitis.

Microscopically, the capillary loops were markedly dilated, some vessels showing phases of obliterative endarteritis and periarteritis and others compensatory dilatation. New formation of capillaries was also noted.

He discusses the literature on these cases which may be summarized as follows: heredity plays no part in the ætiology of the disease, it occurs twice as frequently in females as in males and more often between the ages of twenty and thirty. Syphilis is often an accompanying disease as well as cardiovascular changes, while central nervous disturbance is the exception.

A STUDY OF THE URINARY NITROGEN AND SULPHUR PARTITION IN A CASE OF RHEUMATOID ARTHRITIS TREATED WITH INTRAVENOUS INJECTIONS OF RADIUM SALTS. JACOB ROSEN-BLOOM, p. 718.

Very little work has been done along this line, the work of some experimenters differing widely from that of others.

The case under observation was one of rheumatoid arthritis of many years' standing. Following intravenous injection of 100 micrograms of radium element, the urinary nitrogen showed marked increase and persisted for three days. Uric acid and uric-acid-nitrogen showed no effect. The same results obtained with regard to the total sulphur in the urine and in the amount of neutral sulphur. The percentage excretion of urea-nitrogen, ammonia-nitrogen, uric acid, ammonia acid nitrogen, creatinin-nitrogen and undetermined nitrogen showed no constant effect.

BRITISH JOURNAL OF DERMATOLOGY.

(Feb. 15, 1915, xxvii, No. 2.)

Abstracted by I. ROSEN, M.D.

FROST BITE. E. G. FEARNSIDES, p. 33.

In a lengthy paper, the author describes the various manifestations of frost bite, as found among Arctic explorers, in the trenches, and after exposure to cold in the temperate climates.

He also describes the prophylactic measures employed in the English army. Each soldier is provided with a water-proof ointment, consisting of camphor, white wax and vaseline. Or an ointment consisting of eucalyptus oil, made up in a basis

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of suet fat. The long continued dependent position of the feet should as far as possible be prevented.

LYMPHADENOMA WITH CUTANEOUS LESIONS. W. KNOWSLEY SIBLEY, p. 52.

Sibley reports a case of lymphadenoma with glandular and cutaneous lesions, with a pathological report of an excised gland and a section of the skin. He concludes it is the endothelial cells that are attacked, hence their great multiplication. Owing to this increase, they are unable to generate leucocytes.

This case is receiving X-ray treatment, and the improvement in the glands and the cutaneous lesions is marked.

(*Ibidem*, Apr. 15, 1915, xxvii, No. 4.)

TWO CASES OF SCLERODACTYLIA. F. PARKES WEBBER, p. 113.

The author describes, at length, two cases of sclerodactylia, both occurring in Russians, one affecting the feet and the other the hands, with generalized scleroderma. He claims that while arterial pulsation is usually absent in the parts affected, there is really no true endarteritis obliterans, nor thrombosis; but only contraction and thickening of the arterial middle coats. This he has proven by microscopical study of the amputated parts. The nerves show no abnormal changes. The author goes on to compare Trench frost-bite or Trench foot, found amongst the soldiers in the present war, with sclerodactylia. The ætiological difference between the two is very obvious, one being due to a powerful external irritant, the other being constitutional.

In conclusion, he claims that the ætiology of sclerodactylia will be found in the morbid action of the ductless glands, or with the prolonged presence of ergot-like toxins, either taken unknowingly with the food, or manufactured in small quantities within the body.

ACUTE DERMATITIS DUE TO COPRA DUST. J. H. M. MACLEOD, p. 118.

Macleod reports cases of extensive dermatitis of the face, hands and forearms, due to copra dust. The patient was unloading a shipload of cocoanut or copra, a good part of which was decayed. None of the dust could be obtained for microscopical examination of the parasite (*Tyroglyphus longior*).

A CASE OF MICROSPORON TINEA OF THE SCALP IN AN ADULT. W. J. OLIVER, p. 119.

Oliver reports a case of ringworm of the scalp, in a woman 32 years old. Three of her children were similarly affected.

VIRGINIA MEDICAL SEMI-MONTHLY.

(June 11, 1915, xx, No. 5.)

Abstracted by I. ROSEN, M.D.

SYPHILIS AS A CAUSE OF INSANITY. J. S. DE JARRETTE, p. 111.

The diagnosis of cerebro-spinal involvement may now be made with certainty. The Wassermann reaction of the blood and spinal fluid, increase of globulin,

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pleocytosis and colloidal gold test are pathognomonic. Seven to ten lymphocytes per cubic millimetre is pathological.

The author emphasizes the necessity of teaching the laity the causes of syphilis and the prophylactic measures that may be employed to guard against it.

(*Ibidem*, June 25, 1915, xx, No. 6.)

PRURITUS ANI. L. ELLIOT, p. 137.

The author believes that pruritus ani is always due to some pathological condition in the anus, and therefore is a surgical condition.

JOURNAL OF THE INDIANA STATE MEDICAL ASSOCIATION.

(June 15, 1915, viii, No. 6.)

Abstracted by I. ROSEN, M.D.

THE TECHNIQUE OF ROENTGEN RAY MASSIVE DOSE FOR TREATMENT OF DEEP-SEATED CARCINOMA. JAMES N. MCCOY, p. 290.

The author states that if you cause the death of the glycogen-producing cells, death of the cancer growth follows. In the treatment of deep-seated cancer, therefore, sufficient ray must be given to cause destruction of the glycogen-producing cells. He does not believe in using the massive dose therapy for superficial malignancies.

In measuring the dose of the X-ray, the author follows the method of MacKee, by placing the pastille under the filter on the skin, instead of over the filter. It is the dosage on the skin that we are compelled to gauge, not the dosage on the filter.

OBITUARY.

FANEUIL DUNKIN WEISSE, M.D.

DR. FANEUIL DUNKIN WEISSE was born in Watertown, Mass., on August 27, 1842. He was educated in the common schools of his State. In those days medical education was not as it is now. The requirements for a degree were that the student should be registered with a physician for three years, take two full courses of lectures at a medical school and pass his examinations. Dr. Weisse's father was Dr. John A. Weisse and under him he made his early studies. He graduated from the Medical Department of the University of the City of New York in 1864. While in the medical school and for a year afterward, he was an assistant of Dr. Valentine Mott.

From 1864 to 1875 he was Lecturer and then Professor of Dermatology in the Medical Department of the University of the City of New York. In 1869 he was one of the Founders of the New York Dermatological Society, the oldest organization in the world devoted to the study of that branch of medicine. He was

made an Honorary Member of the Society in 1897. In 1876 he was one of the Founders of the American Dermatological Association, but never took active part in its work, his other interests taking too much of his time.

It was in teaching and in surgical studies that he took most delight. He was Professor of Surgical Pathology (1874-1875) and Professor of Practical and Surgical Anatomy (1876-1888) in the Medical Department of the University of the City of New York; Professor of Surgical Pathology (1865-1875) in the New York College of Veterinary Surgery; Professor of Anatomy, Surgical Pathology and Oral Surgery in the New York College of Dentistry from 1865 to the time of his death. He was Dean of the latter Faculty since 1897. In 1875 he was one of the organizers of the American Veterinary College and later President of its Board of Trustees.

Until a few years ago he was a general practitioner of medicine, when he specialized as a consultant in oral surgery.

As an author he published in 1886 "Practical Human Anatomy."

He was twice married. In 1872 he married Miss Mary E. Suydam. By her he had two sons, Dr. Fanueil S. Weisse and Henry B. Weisse. These, with his second wife, survive him.

He died suddenly at his home, 36 Gramercy Park, New York, on June 22, 1915, of diabetic coma.

G. T. J.

THE JOURNAL OF CUTANEOUS DISEASES

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PEMPHIGOID ERUPTIONS FOLLOWING VACCINATION.*

By W. H. Mook, M.D., St. Louis.

(From the Barnard Free Skin and Cancer Hospital.)

THE unusual occurrence, in St. Louis, in the past two and one-half years, of six cases of pemphigoid dermatitis following vaccination has suggested that the complications following this procedure are probably increasing. From a study of the literature, it is an important fact that certainly the type of lesions has changed in the past thirty or forty years, or a new entity has been established.

Formerly the disease was described as vaccinia, the lesions conforming to the vesicular and bullous type, but of a somewhat different clinical nature. The mortality is increasing, the period of incubation is becoming longer, and the constitutional symptoms more severe.

The following cases represent numerous interesting features:

REPORT OF CASES.

CASE 1. Referred by Dr. M. C. Woodruff, of the St. Louis Health Department.

PATIENT. M. W., aged 9 years. The boy was first seen on Dec. 22, 1912.

FAMILY HISTORY. Father and mother living and in good health.

PAST HISTORY. The mother stated that the boy had always been in rather delicate health. He had suffered from what she called "typhoid pneumonia" twice, pneumonia twice, measles two years ago, and chicken-pox last April.

The patient was a fairly well developed, well nourished boy, nine years of age, suffering from a bullous eruption, involving more or less the entire body. He had been vaccinated on November 2nd, the vaccination "taking" and undergoing the usual stages of evolution. On December 1st he was suffering from a rather severe attack of tonsillitis and bronchitis, which lasted about a week. On December 18th he had a very severe chill, about 7 o'clock in the morning, followed by a marked rise in temperature. That afternoon, at about 3 o'clock, his mother noticed a few bullæ on the back of his neck and sides of his face, containing

*Read before the 39th Annual Meeting of the American Dermatological Association, New York City, May 13-15, 1915.

clear fluid. By the next morning large and small bullæ of all varieties were seen all over the body, some of them containing as much as an ounce of fluid.

Fig. 1 shows his condition six days after the appearance of the eruption. He was removed to the Barnard Free Skin and Cancer Hospital and his blood count was as follows:

White corpuscles	17,000 per cu. mm.
Polymorphonuclears	68%
Transitionals	2.5%
Large mononuclears	4.0%
Lymphocytes	20%
Eosinophiles	5%
Mast cells	0.5%

Smears from a bulla showed the following:

Polymorphonuclears	78%
Mononuclears	20%
Eosinophiles	2%

Many degenerated epithelial cells and clusters of staphylococci were seen throughout the smears.

The eruption consisted, on the anterior surface of the body, of various kinds of bullæ, from a small vesicle to a large bulla, two inches in diameter. They were serous, sero-sanguineous, and hæmorrhagic in character. Some were perfectly round, some crescentic, others oval, and some irregular in shape. On the back, the lesions were somewhat different from those observed on the chest and abdomen. Here they consisted of erythematous, slightly infiltrated plaques, of various sizes up to one and one-half or two inches in diameter, and many of them capped by bullæ much smaller than the individual plaque. In many of them were seen concentric rings of bullæ, hæmorrhagic in the centre and serous at the periphery, as in herpes iris. The erythematous borders spread peripherally, forming large, erythematous, crusted, eczematoid patches. The walls of the bullæ were very thin and ruptured easily, leaving areas of denuded skin, with little tendency to secondary infection.

The patient was in the Barnard Free Skin and Cancer Hospital for a period of two months, during which time the bullæ continued to appear in groups, over the same areas, every four or five days, and healing without scar formation. They gradually localized around the joints and at various times a few lesions appeared on the mucous membrane of the mouth and posterior walls of the pharynx.

His temperature most of the time was normal, except when there was a slight secondary infection, when it would rise to 100° F. There was no pruritus, and the only discomfort he suffered was from the denuded areas and occasional mild secondary infection.

When he was discharged, two months after he was first observed, he had small clusters of bullæ around the mouth, at the joints of his wrists, elbows, shoulders, groins, knees and ankles, resembling a dermatitis herpetiformis or chronic pemphigus in localized areas, and there was a marked tendency to formation of smaller lesions and improvement in his general health.

Blood count, one week after he was first examined, was as follows:

White corpuscles	14,800 per cu. mm.
Polymorphonuclears	52.5%
Transitionals	4.0%
Large mononuclears	3.0%
Lymphocytes	32.0%
Eosinophiles	8.0%

Blood count three weeks after first examination was as follows:

White corpuscles	11,800 per cu. mm.
Polymorphonuclears	54%
Transitionals	5%
Large mononuclears	7%
Lymphocytes	26%
Eosinophiles	8%

For a time his urine contained a trace of albumin, but it had cleared up when he was discharged.

Many cultures from the various lesions gave only a *Staphylococcus albus* growth.

CASE 2. The patient, J. L., aged 6 years, entered the St. Louis Children's Hospital, June 14th, 1914, under the service of Dr. Veeder, to whom I am indebted for the privilege of reporting.

FAMILY HISTORY. Negative.

PAST HISTORY. He was brought into St. Joseph's Orphan Home on June 2nd, 1914, with a health certificate from Dr. Smith. He was successfully vaccinated at that time; there was no serious trouble with vaccination. The boy had not been sick since.

PRESENT ILLNESS. June 15th, 1914. This morning the Sister noticed an eruption on the face, which has extended over the body and into the mouth. He has not vomited, and has had no diarrhoea, no chill, no spasm or convulsions, but seems nervous. The child says that the vesicles do not hurt or itch, but he has scratched some of them open.

PHYSICAL EXAMINATION. The patient is a well-developed, well-nourished boy, 6 years of age, lying quietly in bed. He looks rather sick, but not particularly prostrated. Scattered over the face, arms, fingers, legs, feet and about the scrotum are large bullæ, varying in size from one-half to two centimetres in diameter; some serous, sero-sanguineous, and others hæmorrhagic, and many surrounded by a red areola about one-fourth centimetre wide. The eruption is discrete and in no place confluent—most marked about the mouth, lips, chin, nostrils, penis and scrotum. Elsewhere the bullæ are isolated on the extremities and a few on the scalp. Skin warm, moist and elastic. Subcutaneous fat is good.

On the left arm is an ulceration, from vaccination, about one and one-half centimetres in diameter, with a fairly deep crust and depressed in the centre. There is also a marked areola surrounding this.

HEAD. There is a marked crusting in both nostrils almost blocking the nose completely, and there is a thin, mucoid discharge. The teeth are in good condition. Scattered over the tongue are similar blisters to those seen on the skin, decidedly smaller in size, more thickly distributed, and all containing a clear fluid. The breath has a foul odor. A similar odor is noticed from the eruption on the skin. There is no glandular enlargement.

CHEST. Normal.

ABDOMEN. Normal.

GENITALIA negative but for skin condition.

One day after entrance into the hospital, some of the bullæ which were present had broken, and are covered with a thin layer of the skin, which has been raised, and also with a slightly yellowish crust. Others have increased in size and many more have formed on the head, around the mouth, two appearing on each upper eyelid, and the eruption is more general on the extremities. Large blisters have formed around the anus and many small ones on the fingers and toes and around the vaccination ulcer; on the arm there are four large, confluent bullæ; in the older lesions the red areola has faded, and in some it is entirely gone. The tongue is completely covered with small blisters. The child says the mouth is not sore, complains of no discomfort whatever, looks more prostrated.

The foul odor is everywhere marked. The temperature has remained fairly high. The child's appetite is not very good.

June 16th, 1914. URINE. Dark yellow, clear, sediment, specific gravity 1022, acid, albumin negative, sugar negative, acetone negative, few pus cells, many cocci, epithelial cells and crystals.

June 20th, 1914. All of the skin bullæ were opened Friday night and ammoniated mercury ointment applied. There have been no more bullæ and the general condition seems much better. The temperature curve shows a definite downward tendency. He has not complained of pain at all since being admitted. Blood cultures are negative.

Differential blood count in 200 cells:

Polynuclears	75%
Lymphocytes	23%
Mononuclears and transitionals	2%

June 25th, 1914. The skin of the bullæ has all disappeared, leaving raw areas. These are most marked on the face, neck, and about the genitalia. Boric ointment was used in place of the ammoniated mercury and the wounds closed up. No bandages were applied. The general condition is poor; he has refused most of his food for the past two days. The temperature remains about 100° F.

June 26th, 1914. The patient is decidedly worse this evening and has been vomiting almost the entire amount of fluid and food taken. The ulcerated areas are still as before. The heart is rapid, but of good force as yet. There is no respiratory difficulty. The abdomen has begun to be distended, with loud tympanitic note. No free fluid is ascertained. He has had hypodermoclysis twice, of eight ounces each time, and the mouth is not quite as dry as it was, but contains a foul deposit of cell detritus. There are many râles heard over the chest on both sides—coarse bubbling and fine moist râles.

June 27th, 1914. The patient was much weaker this morning, so that his pulse could hardly be felt at the wrist. Breathing became difficult and throat examination showed ulcerated tonsils and pharynx; smears showed long chains of streptococci, but no Klebs-Loeffler bacilli. The râles in the chest had about all disappeared. Hypodermoclysis was tried, but the patient became decidedly worse during the injection, and died at 8.20 A.M.

CASE 3. Referred by Dr. M. C. Woodruff, St. Louis Health Department.

PATIENT. X, aged 7 years. The girl was first visited on December 14th, and was suffering from a bullous eruption over the entire body.

FAMILY HISTORY. It was impossible to get a good history, because of the reluctance of the parents to give same, claiming they did not understand English. The family lived in a small frame house, with plenty of fresh air on the outside, but which was carefully excluded by closed doors and windows, and the room was intensely hot. The father and mother were very ignorant and exceedingly superstitious regarding the illness, and under no condition would they allow the child to be removed to a hospital, or allow blood cultures to be taken.

PAST HISTORY. Dr. Woodruff, of the Health Department, stated that she had been vaccinated on November 2nd, 1913, with a typical "take," then apparently a normal course of vaccination until December 4th, when the present illness began.

On December 4th, the father stated that the child had a very severe chill, followed by high fever, and the next day he noticed a very marked redness in both palms, followed, in a few hours, by the appearance of a bulla the size of a penny on the abdomen, near the umbilicus. Twelve hours later new bullæ appeared on the chin and soles of the feet. She complained of being very tired and having a severe headache, and was unable to play around the room. Two

days later the bullæ appeared over the various portions of the body, especially marked on the upper half of the trunk and neck.

PHYSICAL EXAMINATION. The patient is a poorly developed and poorly nourished girl, moving constantly in bed. Examination of the body showed the presence of a symmetrical, bullous eruption, most marked around the joints of the toes, ankles, genito-crural region, axilla, wrist, and localized on the mouth and chin.

Examination of individual lesions, which were of several varieties, revealed the primary lesion to be rather a perfect, circinate, erythematous plaque, slightly infiltrated, of various sizes, usually small in the beginning, spreading peripherally and most of them capped by the bullæ. In some instances only a small bulla appeared, one-fourth the size of the erythematous plaque. In other instances the bullæ were circinate, with depressed centres and occasionally in rings, hæmorrhagic centres with clear, serous rings, not intercommunicating. Not all of these erythematous plaques were capped by bullæ, although that was the picture in a majority of them. The erythematous plaques coalesced into large, gyrate, macular lesions, involving most of the trunk, with bright red borders and brownish red centres where the infiltration had been absorbed as the lesions spread peripherally.

The palms and soles were involved in the process, as was the face and scalp, but there were no lesions in the mouth at any time. The bullæ were for the most part serous, but on the ankles, wrists and chest many of them were hæmorrhagic.

The child was again visited on December 17th, and marked improvement had occurred. There had been no bullæ in two days. She was bright, sitting up and inclined to play, and altogether all of the erythematous lesions were paler and the old ones showed a definite tendency to dry up.

The father informed me I could not see the child any more, hence the lack of completeness of investigation.

BLOOD COUNT.	White blood corpuscles.....	28,000 per cu. mm.
	Polynuclears	59.5%
	Large mononuclears	2.0%
	Lymphocytes	40.0%
	Transitionals	1.5%
	Eosinophiles	16.0%
	Mast cells .....	.15%
SMEARS FROM BULLÆ.	Polynuclears.....	53.0%
	Eosinophiles	35.0%
	Lymphocytes	12.0%

A few perfect red cells were seen.

There were small clusters of poorly stained staphylococci.

CASE 4. PATIENT. J. W., aged 7 years. (Washington University Out-patient Department, service of Dr. M. F. Engman.) The boy was first seen on July 22nd, 1914, when he was suffering from a bullous eruption over his entire body.

FAMILY HISTORY. Negative.

PAST HISTORY. He had always been in good health until one year ago, when he suffered from chorea. He was vaccinated the last week in May. His present trouble began in the latter part of June, when he became very irritable and nervous. There was loss of appetite for a few days, and the eruption began to appear over his body.

PHYSICAL EXAMINATION showed that he was fairly well developed, though poorly nourished. The mother was advised to take the patient to the Barnard

Free Skin and Cancer Hospital, but instead went to the City Hospital a week later, under the service of Dr. Richard Weiss, to whom I am indebted for the following notes:

PUPILLARY REFLEXES normal and a slight photophobia is present.

CHEST AND LUNGS, negative.

HEART. Mitral regurgitation and slightly enlarged to the right.

ABDOMEN. Normal.

EXTREMITIES. Œdema of the hands, and left knee-jerks slightly retarded.

PRESENT COMPLAINT. There was a bullous eruption which appeared the latter part of June, distributed generally over the body and especially well marked around the mouth, on the neck, shoulders, elbows, wrists, joints of the hands and fingers, in the groins, perineum, genito-crural region, knees, ankles and feet. There were quite a few lesions in the mouth and pharynx. The bullæ were serous, sero-sanguineous, and a few hæmorrhagic.

Four days after he entered the City Hospital the skin lesions and the œdema of the hands and feet had improved somewhat, but he became quite sick and his temperature had reached 104° F. Coarse râles were heard over the large and small bronchi; he was breathing rapidly and evidently developing pneumonia.

The blood count showed the following:

Leucocytes	15,100 per cu. mm.
Polymorphonuclears	46%
Large mononuclears	11%
Small lymphocytes	40%
Eosinophiles	3%

August 6th, 1914. The temperature dropped by crisis to normal in three hours, and remained normal all day. Bronchial breathing between the scapulæ in the back on the left. Coarse râles over large bronchi and crepitant râles at bases.

August 8th, 1914. General condition was much better. No temperature and no change in the heart.

August 11th, 1914. Cardiac action not so violent as at admission. Apex impulse at sixth interspace, nipple line. Systolic murmur heard at apex and transmitted to axilla. Lungs improved.

August 12th, 1914. During the night the temperature went up to 104° F. No positive findings in lungs or throat. Heart action was labored and respiration 40.

August 14th, 1914. Temperature normal. Yesterday it was around 104° F. No lung findings.

There were constant new outbreaks of small and large bullæ over the entire body and extremities, especially marked over the joints.

Urine examinations during the time he was in the hospital revealed: Specific gravity, between 1015 and 1028. Reaction always acid. Always a trace of albumin. Granular and hyaline casts, and at times a few white and red blood cells.

He was discharged from the hospital on August 17th, at the request of his parents. His body was covered with bullæ, a few hæmorrhagic, but mostly serous, some up to two inches in diameter. He died on August 26th, under the care of a private physician.

CASE 5. PATIENT. F. H., aged 38 years, entered the City Hospital on March 29th, 1915, under the service of Drs. Enguan and Mook.

PRESENT CONDITION. The patient entered the division complaining of a bullous eruption upon the upper part of the chest, axillæ and extremities, which has been present for the past six or seven days. The lesions started as small blisters about the clavicle and axillæ. He stated that he had slept with a friend

who had pediculosis and that he developed the same trouble in the axillæ. He applied a disinfectant to these areas, as well as the rest of the body.

He stated that he was vaccinated at the "Four Courts" seven weeks ago, and had a successful "take" in the usual time.

FAMILY HISTORY. Negative.

PERSONAL HISTORY. He had had measles, scarlet fever, varicella and pertussis. He had had typhoid fever at the age of 16, without complications.

HEAD. Eyes, ears, nose and throat are normal. Has tonsillitis frequently.

RESPIRATORY. Negative.

CIRCULATORY. Negative.

GENITO-URINARY. Gonorrhœa at the age of 18, duration two months, no complications. Gonorrhœa again at 22, epididymitis followed; had chancre and secondary eruption sixteen years ago.

HABITS. Drinks beer and whisky. He states that he has been drinking a quart of whisky daily for the past several months. Denies drugs.

PHYSICAL EXAMINATION. Well developed and nourished, white, adult male. No deformities. No mouth or nose lesions.

CHEST. Well developed, lung expansion good, equal vesicular breathing throughout both lungs, no râles or dullness.

HEART. Area not enlarged. Heart sounds good, no murmurs. Pulse full and regular.

ABDOMEN. Lax and symmetrical, not enlarged, no tenderness.

GLANDS. General adenopathy.

EXTREMITIES. Negative, excepting for the presence of bullæ on the skin.

EYES. Pupils equal, reaction normal, reflexes normal.

SKIN. Scattered over the neck, chest and especially well marked in the axillæ and upper arms are very numerous bullæ, containing for the most part clear fluid, up to one inch in diameter. A few of them are distinctly hæmorrhagic. On the sides of the abdomen, forearms, thighs and legs are scattered isolated vesicles and small bullæ.

April 2nd, 1914. Most of the bullæ have been ruptured by the clothing, leaving excoriated, crusted bases, with a tendency to elevation of same. Some of the bullæ have become purulent. No new lesions.

April 5th, 1914. No new lesions. Old lesions are beginning to dry up, with marked crusting.

April 9th. Most of the lesions are about well and the former sites now show distinct elevations, with scar formation. Those still active, with crusts, show distinct tendency to vegetation, apparently crusted, elevated granulations. There are no new bullæ.

April 13th, 1914. The patient created so much disturbance in the hospital that he had to be discharged. The sites of all the lesions were almost entirely well, some of them being slightly crusted, most of them having flattened down to the level of the surface of the skin, with the presence of scar tissue. The vegetating lesions were still elevated, with a tendency to flattening, and showed scar formation. There had been no outbreak of skin lesions since the original bullous eruption had appeared, and he recovered without secondary infection.

The blood count was as follows: Differential leucocyte count of 400 cells:

Lymphocytes	24%
Polymorphonuclear neutrophiles	71%
Polymorphonuclear eosinophiles	2%
Polymorphonuclear basophiles	0.25%
Large mononuclears	2%
Transitionals	0.75%

Fluid from vesicle: Faintly yellowish, slightly cloudy, moderate number of pus cells, staphylococci.

CASE 6. PATIENT. M. A. T. He was seen by Dr. M. F. Engman, in 1904, to whom I am indebted for the privilege of reporting.

GENERAL HISTORY. The patient was seen on September 14th, 1904. Eighteen days previously he had been vaccinated by his private physician. The arm became very sore. After a week he began to feel badly, suffering from headache and pain, accompanied by sweats, chills and fever. These phenomena occurred twelve days after the vaccination, when red spots began to appear on the body and later on the hands and forearms. Two days after this, blisters appeared on the hands and on the vaccinated arm. The next day, or thirteen days after the vaccination, the arm became very much swollen; and on the day following was full of blisters. Blisters appeared rapidly over the thighs, legs, arms, forearms, hands, back and inguinal region. They consisted of clear bullæ, varying in size from a pea to a silver dollar, and were raised and tense. At first they were clear, without areola, but later became pustular, with considerable surrounding inflammation.

On the fifteenth day, the lesions began to appear in the mouth and nose, forming rapidly until the tongue, hard and soft palate, nose and lips were covered with excoriated lesions, each having a grayish membrane. The lesions in the mouth were very troublesome for a time, but he recovered entirely in about three weeks.

Cultures from the periphery of the vaccination, scraped on agar agar, yielded staphylococci. The cultures from the blebs and from the blood, on agar agar and blood serum, remained sterile. There was nothing abnormal with the white cells (as eosinophilia), but a decided microcytosis and poikilocytosis.

CASE 7. PATIENT. P. M., aged 38 years. He was sent to the Isolation Hospital, April 6th, 1915, with a diagnosis of chicken pox, and three days later transferred to the Barnard Free Skin and Cancer Hospital, under the service of Dr. M. F. Engman, where the true condition was developed.

PRESENT CONDITION. The patient walked to the hospital from the City Dispensary, where the diagnosis of chicken pox was made. He states he has had the eruption about the face and chest for the past twenty-four hours, with some itching. Examination of the patient shows a small papular eruption with some vesicles. This eruption was confined to the face and upper part of chest. On opening these vesicles the contents completely escape. Examination reveals a recent vaccination scab on the left arm, which patient states was made on March 7th, at the Municipal Lodging House, City. This is the first attempt to be vaccinated; he never has had smallpox.

FAMILY HISTORY. Negative.

PERSONAL HISTORY. The patient is a colored male. He was born in St. Augustine, Fla. He lived a very quiet life until the age of twenty, and was an orange grower until that age. Since that date, until last year, he has been a cook at various places in the United States. For the last year has been doing laboring work, handling coal and lumber. He has always had good health.

PREVIOUS DISEASES. Had measles when a child. Knows of no other sickness. Has had several exposures to smallpox; has never been vaccinated until present vaccination, on March 7th, 1915. Vaccination ran a normal course, and at present time has a well-formed scab. The patient denies lies.

PRESENT ATTACK. Dates from April 4th, when he noticed some itching about the neck and chest, with some eruption on the skin. He did not feel ill. The patient went to the Central Dispensary, where the diagnosis of chicken pox was made and he was transferred to the Infectious Disease Hospital.

PHYSICAL EXAMINATION. A well-developed, colored male; well-nourished. Eyes show a profuse lacerimation; conjunctivæ much inflamed; photophobia, marked pharyngitis; slight enlargement of cervical glands. Tongue, ears and nose are normal.

CHEST. Respiration full and equal; no pathological lung findings; no cardiac murmurs; no enlargement or displacement.

ABDOMEN. Apparently negative, no enlargement of spleen.

EXTREMITIES. Negative, except for a well-formed scab on left arm, the result of a vaccination which was done March 7th, 1915, at the Municipal Lodging House.

SKIN. Examination shows a small papular eruption over the face and chest, with a few vesicles, some of which are the size of a dime, which empty when pricked with a pin. Very little or no itching, but some pain from distention of vesicles. Twenty-four hours after admission of the patient, this eruption spread over the entire body, the vesicles becoming very large, many being the size of a silver dollar. These vesicles cause considerable pain, but no itching: the patient has the same eruption on the mucous surfaces. His temperature for the first forty-eight hours varied from 100° F. to 102° F.; since that time the temperature has been normal.

URINALYSIS. No albumin or casts; no sugar. Phosphates present. A culture taken from the throat at the time of admission was negative for diphtheria.

BLOOD EXAMINATIONS. April 10th, 1915.

Leucocytes	14,000 per cu. mm.
Polymorphonuclears	60%
Large lymphocytes	4%
Small lymphocytes	18%
Eosinophiles	18%
Mast cells	0%

April 11th, 1915.

Leucocytes	14,600 per cu. mm.
Polymorphonuclears	61%
Large lymphocytes	3%
Small lymphocytes	20%
Eosinophiles	15%

April 11th, 1915, P. M. The patient was transferred to the Barnard Free Skin and Cancer Hospital for further treatment, where the case could be more closely observed.

April 14th, 1915. Wassermann Positive (+ + + +).

Blood culture negative.

Serum from vesicle was clear light yellow, containing a few leucocytes. Differential count of 400 leucocytes:

Lymphocytes	27.5%
Polymorphonuclears	38.7%
Polymorphoeosinophiles	9.0%
Polymorphobasophiles .....	.5%
Large lymphocytes	2.5%
Transitionals	1.8%

The temperature remained up to 103° F. for three days, the bullæ soon rupturing, leaving large areas of denuded skin, and he died on April 17th, 1915.

AUTOPSY. April 18th, 1915, 10:00 A.M. The autopsy was performed in the Pathological Department of the Barnard Free Skin and Cancer Hospital, by Drs. Ralph Thompson and George Smith.

ANATOMICAL DIAGNOSIS. Pemphigus; broncho-pneumonia; syphilitic aortitis; syphilis of liver; acute parenchymatous degeneration of kidneys.

The body was that of a fairly well developed negro of about 38 years of age. The entire body was covered with a large number of bullæ of varying size, for an exact description and distribution of which see clinical history.

On opening the abdomen, the viscera were in a normal position. The liver

was brown-red in color and firm in consistency. It had a dark red, mottled appearance on section. Two stellate superficial scars were on the upper surface of the right lobe.

The kidneys showed a moderate passive congestion.

The spleen showed no changes.

The pancreas was normal.

The bladder and prostrate were normal.

The gastro-intestinal tract showed no changes.

The adrenals showed a rather pale medulla.

The pericardium and the heart were normal. Several small syphilitic patches were found in the first part of the aorta.

The bases of both lungs showed several irregular foci of consolidation.

The bronchi contained a purulent exudate.

The larynx and upper part of the trachea showed a number of minute vesicles.

The œsophagus showed also a number of small collapsed vesicles which were irregularly distributed near the pharyngeal end of the œsophagus. No changes were noted in the lower part of the œsophagus.

The brain, save for a moderate congestion, showed no change.

MICROSCOPICAL EXAMINATION showed a chronic passive congestion of all the viscera. Both lungs presented small patches of bronchial pneumonia. The kidneys showed acute parenchymatous degeneration. Subacute inflammatory changes were noted in the larynx and the trachea, in the region in which the vesicles occurred.

CASE 8. PATIENT. E. H. W., aged 12 years. The boy was first seen on March 31st, 1913. He was a physician's son, well developed. The family and past histories were negative. The disease began about March 24th, as blisters in the mouth, then it came on the backs of the hands; he has not felt badly at all; the throat does not feel sore, nor the mouth. Examination of the throat shows it congested, affecting the whole pharynx and tonsils. Scattered over the cheeks, lips, inside of lips and over the mucous membrane of the lips are a number of lesions that have been bullæ, which have been broken and dried, leaving very thickened patches where the lesions have run together; over the backs of the hands and neck are erythema iris-like lesions—that is, a small flat, flaccid bulla, with an umbilicated or central depression. They are one-half inch in diameter, isolated, without an inflammatory areola.

April 5th, 1913. The boy appears to be very much worse. He has now over the backs of the hands several large bullæ filled with clear serum. Other lesions are larger and more elevated and filled with a milky serum. They range in size from a nickel to a silver quarter, with no inflammatory areola. They are umbilicated, whereas the large, tense bullæ are not umbilicated. The mouth is very sore, the lips covered with a blackish crust. The boy looks pale and sick. He was vaccinated with a Mulford's vaccine the latter part of January, the exact date is not known. The vaccination did not "take," and there is no scar on the arm from it at present.

April 7th, 1913. The patient is now at St. Luke's Hospital. Upon further examination the lip is found covered with a thick, heavy, greenish crust. It is easily removed, as it covers an oozing surface. When the crust is removed, the surface of the lip is red, granular-looking, oozing and very œdematous. It was painted with 1% nitrate of silver. The tongue is dotted with reddened areas like mucous patches, and on its upper surface are sites of former flaccid bullæ. The throat is red and congested and has some shreds of mucous membrane over it, undoubtedly the sites of similar bullous formations.

The skin cleared up in about ten days in the hospital, under rest treatment. No medicines were given.

May 31st, 1913. Relapse. Two weeks ago the soreness in the mouth returned, with appearance of bullæ. One week ago, concentric rings of bullæ began on the

backs of the hands and forearms. A feeling of malaise preceded the attack. The lips are macerated and somewhat swollen. He was advised rest in bed for a week.

The following report was received from his father, who is a physician:

"After leaving the hospital in April, 1913, my son had an attack toward the end of May, 1913, another in August, 1913, another in January, 1914, and the last one in May, 1914. The attacks became milder each time. It would begin by his becoming dull, inattentive and listless. Then his mouth would get sore and blebs would appear on the buccal mucous membrane. He would become feverish and sleepy. Following this the eruption would appear on the back of his hands and lips, with generally one bleb on each knee. These blebs would be about one-half inch in diameter and numbered about fifteen or twenty on each hand. He would suffer very much in swallowing and I kept him on a cream diet. The attack would last about a week, when the blebs would begin to dry up and he would gradually recover his strength, but it would leave him so nervous that he could not write at school for weeks. It has now been almost a year since his last attack and he is still so unsteady he cannot thread a needle, but has grown fat and is perfectly happy. Weighs 125 lbs. and is 5 ft. 2 in. tall."

In seven of the eight cases the vaccination was successful without secondary infection. In the eighth, the son of a physician, the vaccination did not "take," and there was no secondary infection or local reaction, other than that due to slight scarification.

EXPERIMENTS.

The following experiments were done under the most careful aseptic and antiseptic precautions.

CASE 1. December 26th, 1912. Ten cubic centimetres of fluid were aspirated from a clear bulla and injected into the tongue, gums and lips of a calf. The gums and lips were also scarified and some of the contents rubbed upon the injured mucosa. The fluid was also injected under the skin and around the hoofs of the fore feet. The calf was kept under observation two months. During this time there was no evidence of infection in the mouth or around the hoofs.

This experiment was done in collaboration with Dr. D. L. Harris, City Bacteriologist, at the St. Louis City Hospital.

A quantity of fluid from the same case was sent to Dr. John Anderson, Director of the Hygienic Laboratory, at Washington, D. C., and he reports as follows:

"A monkey was inoculated, subcutaneously, with a small amount of the fluid. During the period of observation, of about a month, the animal presented no evidence of any reaction. Cultures made on ordinary media with a portion of the material showed no growth."

CASE 2. June 15th, 1914. Five cubic centimetres of slightly turbid fluid were injected into a guinea pig, with a negative result in every way. Smears of the fluid showed a few pus cells and many diplococci. Cultures on various media yielded only a growth of *Staphylococcus albus*. Blood cultures were negative.

These experiments were performed by Dr. Borden S. Veeder, Professor of Paediatrics at Washington University.

CASE 5. On March 31st, 1915, eight cubic centimetres of blood were obtained from a vein at the elbow and placed in two cubic centimetres of 1% sodium citrate in .85% sodium chloride solution. Within an hour two cubic centimetres of blood were injected into a rabbit intravenously and the same amount was in-

jected into a guinea pig subcutaneously. The rabbit was killed by a dog ten days after inoculation. Autopsy on the rabbit revealed nothing excepting what could be attributed to the results of the attack by the dog. Cultures made from the blood of the rabbit were negative. Three months later the guinea pig was alive and well.

Serum was obtained from the vesicles and a rabbit was inoculated intravenously with one-half cubic centimetre and a guinea pig inoculated subcutaneously with the same amount. The guinea pig is at present alive and well (Apr. 27, 1915). The rabbit was killed at the same time and in the same manner as the one which received the blood.

Cultures made with the fresh serum from the vesicles gave a growth of *Staphylococcus albus*.

Blood cultures, under aerobic and anaerobic conditions, were negative. The media used were plain agar, Loeffler's blood serum and lactose agar.

This experiment was performed in collaboration with Dr. George Ives, Assistant Professor of Pathology, at St. Louis University.

CASE 7. April 11th, 1915. Three cubic centimetres from a slightly turbid bulla were injected into the mammary region of a monkey, which resulted in a tumefaction, in about a week, the size of a walnut. This tumefaction underwent involution and was completely absorbed in six weeks. After three months, the monkey was alive and well, suffering no local or systemic reaction other than the tumefaction. Two rabbits and two guinea pigs were injected similarly, with a negative result. A few of the cultures, on various media, yielded only *Staphylococcus albus* growths. Blood cultures under aerobic and anaerobic conditions were negative.

These experiments were performed in collaboration with Dr. George S. Smith, Pathologist of the Barnard Free Skin and Cancer Hospital.

SUMMARY OF EXPERIMENTS

The experiments, it will be seen, were inoculation experiments on a calf, two monkeys, guinea pigs, rabbits, and blood cultures under aerobic and anaerobic conditions; and all were negative.

The experiments prove that the affection, therefore, is not a vaccinia but they reveal no ætiological factor.

The *Staphylococcus albus* growths yielded in several instances were undoubtedly due to secondary infection.

REVIEW OF THE LITERATURE.

The general eruptions described by various authors are variable in character, consisting of urticaria of different types, several varieties of erythema, purpuric and even gangrenous, papular, pustular, vesicular and bullous lesions.

The rarity of these cases from a large supply of vaccine from the same source suggests an idiosyncrasy in the individual. The clinical dissimilarity of the above cases and those described as generalized vaccinia, together with the negative inoculation experiments, make it very suggestive that generalized vaccinia and the acute pemphigoid dermatitis following vaccination are different affections. That they are in some way related is a natural conclusion. Later research may classify the affection as due to anaphylactic phe-

nomena, although the present knowledge of anaphylaxis would not warrant placing it in that group without proof.

Longstaff¹ vaccinated his own child, three months old, with calf lymph. Vesicles appeared on the extremities, head and a few on the body. An erythematous rash developed on the back and forearms. The lymph was from a cowpox calf. Three of his other children were vaccinated with the same lymph, with no unusual results.

Martin² reports a case in which he vaccinated a heifer from pox which developed in a child affected by a general eruption, suffering, as it would appear, from its being suckled by its mother during the period of her vaccination. A general vaccination has been produced in children who have suckled their vaccination pocks, and in those who have been previously insusceptible to vaccination by the intentional administration of powdered vaccine crusts with food.

Chauveau³ demonstrated that a generalization manifested by an eruption capable of producing the ordinary results of vaccination could be excited by the vaccination of horses through the digestive, circulatory and respiratory systems, as well as by injection into the subcutaneous tissues.

"These observations are in agreement with the clinical facts and prove that the results of vaccination may be obtained without the production of the local pocks; and under given conditions, the diffusion of the virus is occasionally demonstrated by the appearance of a cutaneous eruption similar to that which occurs in the acute exanthem, even if it be not acknowledged analogous to them."

Acland⁴ reports a case of confluent vaccinia in which he thought the eruption became confluent by auto-inoculation and possibly also by absorption through the digestive tract. He thought the abnormal conditions were primarily due to some peculiarity of the child, since the lymph used was the forty-second removed from the calf, and three other children were vaccinated from the child without complications of any kind. The lymph was traced backwards and forwards through three generations, and twenty-five children in all were examined in immediate relation to this particular case. In four out of eight vaccinated from the same source, no results followed, while in one child in the fourth removed, twelve supernumerary pocks appeared. In the fourth week the so-called supernumerary pocks began to appear on the face, arms, legs, abdomen and thighs. The mother's breast became inoculated from suckling the child. Her vaccination ran a normal course. The child died eight weeks after vaccination.

In the "Final Report of the Royal Commission on Vaccination,"⁵ in a period from 1890 to 1903, they showed that the deaths from cowpox and other effects of vaccination was one to every 30,218.

Copeman⁶ proved positively that smallpox lymph, by passing through the system of a calf, can be so altered in character as to become deprived of its power of causing a generalized eruption while including at the site of inoculation a vesicle, indistinguishable from a typical vaccination vesicle, and when transferred again to man has lost its power to produce a general disease. He concluded that cowpox is, therefore, nothing more nor less than smallpox modified by transmission from the bovine animal.

That there is a similarity between the acute septic pemphigus occurring in butchers and the pemphigoid eruption following vaccination is evidenced by the similarity of the period of incubation and the clinical symptoms of the severer types of the latter, the mortality, and that both undoubtedly originate from animals, usually from the bovine species.

Tyzzer, in a personal conversation, expressed the opinion that the experiment with the calf eliminates foot and mouth disease from the group, as it is the most contagious of the animal diseases. Tyzzer's work proved conclusively that foot and mouth disease may be disseminated by vaccination. The period of incubation in foot and mouth disease is much shorter than in acute septic pemphigus.

though both are characterized by similar mouth lesions. These and other points of resemblance suggest that they belong to the same group.

Siegel,⁷ describing the epidemic of foot and mouth disease in Britz, Germany, stated the period of incubation in man was from eight to ten days, beginning with chills, pains in the back and slight fever. Three to five days later the mucous membrane of the mouth became inflamed, the tongue and jaws swollen and then the vesicles appeared on the tongue, lips and corners of the mouth. They spread over the body in some cases and occasionally purpura appeared. He thinks the relation between foot and mouth disease in animals and man is the same as that existing between vaccinia and variola; in other words, that the disease in animals is an attenuated form of that in man. He believes the infection of man with the virulent form can only occur from man to man.

Bowen⁸ reports a case of acute septic pemphigus in a butcher during an epidemic of foot and mouth disease. The primary lesion was a cut on the hands, followed by swelling and septic bullous lesions. From a résumé of the literature at that time he concluded:

"There existed an acute febrile form of bullous dermatitis caused by the infection of a wound and occurring usually, if not always, in butchers or people who have to do with animal products. Studying the cases following vaccination, he was of the opinion that they belonged to the same class as the acute septic pemphigus in butchers."

He also mentioned a case of bullous dermatitis he had seen in 1894.

Peruet⁹ reported a similar case, the patient dying in a short time. He collected seven cases from the literature, of butchers ranging in age from 7 to 33 years. There was a distinct history of wound in four cases. Six of the eight cases were fatal. There was a high temperature in all of them. In three of them the wound had been inflicted three months, two months, and five weeks, respectively, before the eruption appeared. They were all bullous in type, and some were hemorrhagic. The mouth and nostrils were affected in all. He also collected eight more cases in people not butchers but their usual occupations brought them in contact with animals or animal products.

Bullock isolated a diplococcus and reported it the same as the one described by Demme.

Grindon¹⁰ reports a case of acute septic pemphigus of the Pernet-Bullock type.

Allen¹¹ reports a case of acute septic pemphigus in a blacksmith, terminating in recovery in a month.

We had a case of acute septic pemphigus in the Barnard Free Skin and Cancer Hospital in a butcher, terminating in death in a very short time.

Morrow,¹² "On the Incidental Effects of Vaccination," describes a variety of lesions, including urticaria, exudative erythema, vesicular and pustular, bullous, gangrenous and diathetic.

Professor Hardy and other French authorities assert that generalized vaccinia is common. Morrow believed that the general eruptions were the results of auto-inoculation and that most post-vaccinal lesions appeared about the ninth day. He reports a bullous case in a boy, eleven years old, which developed three weeks after vaccination. The bullæ were on normal skin base, except lesions in the palms, where the localization was determined by ichthyosis. The bullæ recurred in crops and he still had the disease several months after the onset.

Dr. Gregory reports a purpuric eruption eight days after vaccination, over the entire body. Dr. Hutchinson reports a vesicular eruption in a healthy child, developed in eight days. Within eleven days the lesions were gangrenous and the child died in three weeks. He thought the incubation time was from forty-eight hours to nine or ten days, the latter being the most frequent, and thought the time would vary according as bovine or human lymph was used.

Dyer¹³ reports two cases of dermatitis herpetiformis, three weeks after vaccination. The first in a boy seven years of age, lasting eight months. The second¹⁴

in a negro, aged 34 years. In both they were grouped, symmetrical, vesicular and bullous.

Pusey¹⁵ reports a case of dermatitis herpetiformis in a girl, twelve years of age, recurrent for four and one-half years. The eruption consisted of vesicles and bullæ with erythematous pigmented patches and a tendency to grouping.

Bowen¹⁶ reports a series of these cases of bullous dermatitis following vaccination, all in children, three of them with a period of incubation of two weeks, and three of them four weeks after vaccination. In all of these cases the disease was recurrent, one of them showing lesions two and one-half years after the onset. He was uncertain but thought vaccination the ætiological factor.

Howard Morrow¹⁷ reports a case of generalized vaccinia resembling variola. The lesions appeared nine days after vaccination, with papules at first, and becoming vesicular, with some erythematous plaques on the thighs and buttocks. There were no lesions in the mouth or on the face. Temperature ranged up to 100° F. and the patient was well in ten days.

Sequeira¹⁸ showed a case of bullous dermatitis three weeks after vaccination. The eruption first appeared on the forearms and on normal skin and was not preceded by erythema. There was no rise of temperature.

Galloway¹⁹ reports a case of bullous dermatitis seven weeks after vaccination. There was erythema around some of the bullæ and urticaria-like lesions on the skin. Bullæ were present in the mouth. On account of grouping of the vesicles in some places like herpes zoster, associated with erythematous and urticarial lesions, he made a diagnosis of dermatitis herpetiformis.

Colcott Fox²⁰ reports a case in which the lesions were papular-vesicular, resembling chicken pox.

Freeman²¹ reports a series of post-vaccinal eruptions, the first in a girl, twenty-three years of age, who had papular lesions, developing into multilocular vesicles in a few days, localized on the vaccinated arm. The second case was a woman of twenty-five, who developed a multiform erythematous rash over the body, becoming papular, nodular, annular and gyrate. The third case was in a man aged fifty-four, with a bullous eruption over the trunk. Temperature was 102° F. The lesions were mostly clear, though some were hæmorrhagic and were accompanied by joint swellings. The fourth case was a girl, of four years of age, who developed a measles rash in a week. The fifth was a baby brother, who developed the same measles rash in the same time. In both of the latter cases, the rash started from the vaccinated area. The sixth developed a variegated, macular, erythematous rash.

Howe²² reports ten cases of bullous dermatitis, with six deaths. The average duration of the disease was six weeks from the appearance of the eruption, all terminating in death or complete recovery. The period of incubation was three to sixteen weeks, with an average of five weeks. In all of them the parts most affected were the back of the neck, the regions between the shoulders, the axillæ, buttocks and entire thighs, and there was a marked tendency to grouping. The patients were all adults, the lesions were not on a red areola and there was no lymphangitis. He was uncertain whether they were the result of vaccination.

Stelwagon,²³ in an article on vaccinal eruptions, reported erythema multiforme, urticaria, impetigo contagiosa and pemphigoid lesions. The type most frequently observed was urticarial in character. He reports three of the pemphigoid variety, two adults and one child. The eruption appeared two to four weeks after vaccination. Two were of the acute pemphigus variety and one resembling dermatitis herpetiformis, with recurrences after eight months. He thought that vaccination was the ætiological factor.

Simpson²⁴ reports an annular, serpiginous bullous eruption in a negro, complicating vaccination, the disease lasting about two weeks, running a mild, septic course. The lesions appeared three days after vaccination, upon the right leg, soon appearing over the entire body.

SUMMARY.

Summing up the evidence from the above cases and those in the literature, we have a constitutional, more or less symmetrical disease of the skin, following vaccination, manifested by a great variety of lesions which may be divided in three groups:

Group A, terminating in rapid recovery, with or without constitutional disturbance.

Group B, continuing as a chronic, recurrent, vesicular or bullous affection, with or without constitutional symptoms.

Group C, terminating rapidly in death.

The vaccination may or may not have been successful.

The period of incubation may vary from three or four days to four months. A majority of the cases vary from three to five weeks. The benign cases are manifested by smaller bullæ. Mouth lesions may or may not be present, and there may be slight or severe febrile disturbance. They may terminate in complete, uncomplicated recovery in a few weeks, or recur as a vesicular or bullous eruption, in crops, over a period of years (as in Pusey's case) as a true or pseudo-dermatitis herpetiformis.

The vegetating and scar forming varieties are fortunately rare. All of the cases have a rise of temperature at the onset or during the course of the disease.

The cases in this report were all primary vaccinations and presumably were in those mentioned in the references. The lesions show a predilection for certain areas, localizing around the mouth, neck, extremities, and especially the joints. The pemphigoid variety may appear as small vesicles, resembling chicken pox and smallpox, or as papulo-vesicles, and may become pustular. The bullæ are usually clear and tense on normal skin, though they may be on inflamed and eczematoid areas: of great variety in sizes, forms and configurations in the same individual. Hemorrhagic bullæ are frequent. Circinate and concentric rings of bullæ are marked features. In some cases the central bulla is hemorrhagic with concentric, serous vesicles and bullæ and not necessarily intercommunicating. Others have a tendency to the production of large, gyrate patches of peculiar, inflammatory areas, resembling mostly eczematoid dermatitis.

The inoculation experiments were negative in two monkeys, a calf, several guinea pigs and rabbits. Blood cultures from a fatal case and two recovered cases were negative under aerobic and anaërobic conditions, on agar and blood serum media. Numerous cultures from various bullous lesions yielded ordinary staphylococci and some of them were sterile.

Smears from one case showed diplococci, but the culture from this case showed staphylococci and the guinea pig inoculated was negative.

A mild or marked leucocytosis occurred, early in all of the cases, continuing in two of the fatal ones and disappearing in those recovering or having a tendency to relapse. The eosinophilia appeared in the later stages, though it was not constant.

The disease begins as a primary lesion; namely, the vaccination, followed by mild or severe constitutional involvement, with a multiformity of lesions involving the skin and mucous membrane, and running a short, acute, or chronic course, sometimes over a period of years, and in many is fatal.

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DISCUSSION.

DR. SCHAMBERG said that he had, during the past 15 years, seen 5 cases of bullous dermatitis following vaccination. It was one of the most distressing of the accidents that followed vaccination for there was considerable reason to regard the trouble as emanating from the vaccine lymph. The clinical conformity of the picture and the constant period of incubation pointed in this direction. If one considered, however, the enormous number of vaccinations performed, we need not be unnecessarily disturbed about such accidents, as they were relatively rare. Of course, every effort should be made to ascertain the cause of the trouble with a view to securing its elimination. The speaker said that he had sat for a year as a member of the Pennsylvania State Vaccination Commission and that, although the antivaccination members had with great assiduity presented lists of

casualties and fatalities occurring after vaccination throughout the entire United States, yet he could not recall the inclusion of any case of bullous dermatitis.

He felt that Dr. Mook was entirely correct in excluding vaccinia generalisata in the diagnosis of this condition. He was glad to learn that scientific investigations had also been able to eliminate the virus of foot and mouth disease, as a factor in the production of this eruption.

Several years ago, Dr. Schamberg had asked a veterinary pathologist to inoculate a calf with material from a similar case; the results in this case were negative. Arsenic in recurrent cases of bullous dermatitis following vaccination frequently acted as a specific. In one case its administration practically cleared up the eruption, which would then reappear upon suspension of the use of the drug. The eruption would again heal up on resumption of its use. Fowler's solution in ascending doses was given.

Dr. BRAYTON, following Dr. Schamberg's remarks, told of an epidemic of smallpox in Indianapolis in which vaccination was widespread, taking in some 35,000 or 40,000 cases in a few weeks in a city of 240,000. The pemphigoid cases noted were six or seven; most of them were as severe as the cases of Dr. Mook. All, with one exception, were in young persons, from seven to fifteen years. He did not recall any hæmorrhagic forms. It was not likely that they saw all the cases that occurred in the city, but he saw six or seven. He presumed that others who had had a large experience of epidemics of smallpox would recall a series of pemphigoid eruptions.

Dr. C. J. WHITE called attention to the fact that this condition occurred chiefly in men. The few cases he had seen were all in men, and to this preponderance must be added the present group.

Dr. C. M. SMITH said that it was his impression that in the cases reported by Dr. Howe, the vaccination was unsuccessful.

Dr. HAZEN said that Proescher, of Pittsburgh, thought that, by special staining methods, he had found the organism of vaccinia. The National Vaccine Company of Washington was experimenting along these lines, and thought that they had confirmed Proescher's work.

PRIMARY SYPHILIS OF THE TONSIL.*

By C. MORTON SMITH, M.D., Boston.

SEVERAL articles have been written at home and abroad during the past half century on chancre of the tonsil. Many cases have been reported from time to time in medical journals. However, in spite of all that has been said, this route of syphilitic infection is still unsuspected by many physicians and consequently often overlooked; the diagnosis being made only when secondary lesions of the skin appeared and the route of infection then was not recognized.

Syphilis is more than a venereal disease, as shown by the large

* Read before the 39th Annual Meeting of the American Dermatological Association, New York City, May 13-15, 1915.

PLATE XXXIII.—To Illustrate Article on Pemphigoid Eruptions Following
Vaccination, by W. H. MOOK, M.D.

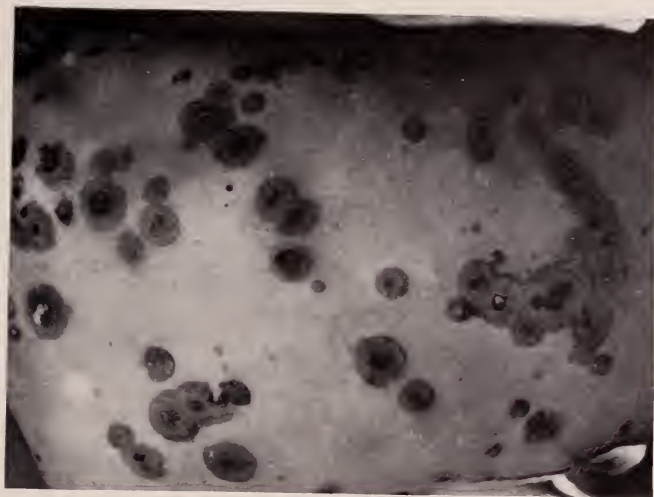


Fig. 2, Case 1.
Showing circinate bullae with hemorrhagic bullous centres and concentric rings of serous bullae.



Fig. 1, Case 1.
Showing curious configuration frequently observed. Hemorrhagic and serous bullae.

PLATE XXXIV.—To Illustrate Article on Pemphigoid Eruptions Following
Vaccination, by W. H. Mook, M.D.



Fig. 3. Case 1.
Showing the general distribution of the eruption.

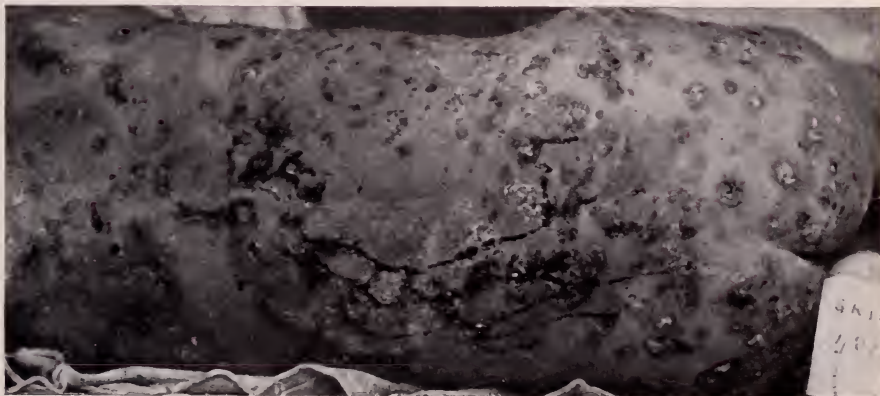


Fig. 4. Case 1.
Seventeen days after the onset. Resembles the acute septic pemphigus
encountered in butchers.

PLATE XXXV.—To illustrate Article on Pemphigoid Eruptions Following Vaccination, by W. H. Mook, M.D.

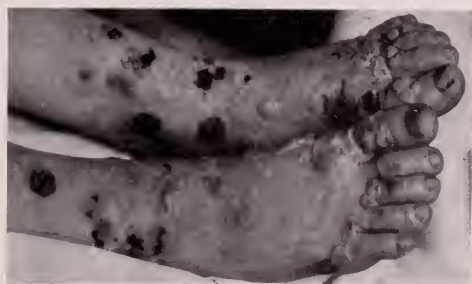


Fig. 6. Case 1.
Showing joint localization. Hemorrhagic
and serous, circinate bullae.



Fig. 5. Case 1.
Showing numerous bullae on the legs.

PLATE XXXVI.—To Illustrate Article on Pemphigoid Eruptions Following
Vaccination, by W. H. Mook, M.D.



Fig. 7. Case 2.
Showing special areas most frequently involved in these cases.



Fig. 8. Case 2.
Showing general distribution of the eruption.

PLATE XXXVII.—To Illustrate Article on Pemphigoid Eruptions Following
Vaccination, by W. H. Mook, M.D.



Fig. 9. Case 3.

Showing gyrate patches of eczema-
toid dermatitis-like lesions
with few bullæ.



Fig. 10. Case 3.

PLATE XXXVIII.—To Illustrate Article on Pemphigoid Eruptions Following Vaccination, by W. H. Mook, M.D.



Fig. 11. Case 5.

Shows vegetations or papular, epithelial proliferations at former sites of lesions. Also depicts location in axillæ.



Fig. 13. Case 5.

Shows scar formation with some vegetation of papules.



Fig. 12. Case 5.

Showing bullous lesions one week after onset.

PLATE XXXIX.—To Illustrate Article on Pemphigoid Eruptions Following
Vaccination, by W. H. MOOK, M.D.



Fig. 15, Case 7.
Showing eruption 6 days after onset.



Fig. 14, Case 7.
Showing eruption 6 days after onset.

number of accidental extra-genital infections. When the medical profession considers syphilis, often of innocent origin, a chronic contagious disease, and impresses this idea upon the public, much will have been accomplished toward its proper relief and control. Among the accidental infections chancre of the tonsil occupies an important position, ranking, with different observers, from first to fifth after genital inoculations.

The exact relation it bears to other extra-genital chancres is difficult to determine. Estimates of authors from different countries vary from 1% to 75%. Thrasher¹ thinks about 20% of all extra-genital primaries are on the tonsil. He states that Protzeck, at the Breslau clinic, saw but one chancre of the tonsil among 93 extra-genital cases in twelve years—while Sabolotsky reported 139 extra-genital infections in one year in a Moscow hospital and of this number, 104, or nearly 75%, were upon the tonsil.

Wilson² gives the following figures: 55% of Rosenquist's, 6% of Stribel's, 5% of Munchenheimer's, 3.5% of Bulkley's³ (tabulated) and 2.2% of Fournier's cases of extra-genital primary lesions were tonsillar.

Wilson says, "If 14% of extra-genital chancres are on the tonsils, some of us fail to recognize them." He gives the reported cases of extra-genital initial lesions as 6,000, of which 600 were tonsillar—10%.

Velpeau, in 1852, thought chancre of the tonsil impossible. Fournier,⁴ in 1858, published a series of 77 buccal chancres, one of which was upon the tonsil. Rollett, the following year, recorded 4 cases of this sort. In 1861 Diday⁵ reported 8 cases, 4 positive and 4 probable, from the history. He was the first to call attention to the importance of chancre of the tonsil and really gave it a place in the history of syphilis.

An occasional case was reported from time to time during the next two decades. Legendre,⁶ in 1884, published extended observations on this route of infection. Donaldson,⁷ in 1885, wrote an article on the subject and gave a list of reported cases up to that date and added one of his own.

Bulkley,⁸ in 1893, published 2,000 cases of syphilis from his private practice; in many nothing was known of the primary lesion but 111 were positively extra-genital—of these 15 were chancre of the tonsil—8 males and 7 females.

Chancre of the tonsil is usually unilateral, although it does rarely occur on both sides. Fournier,⁹ in 1894, had apparently not seen such an instance. There are six among our cases. For some un-

known reason the right tonsil is the more frequent seat and there is a slight majority of males over females.

ANALYSIS OF 64 CASES OF TONSILLAR CHANCRE.

SEX.		DIAGNOSIS.		LOCATION.	
Male	36	Positive	45	Right	22
Female	28	Probable	19	Left	12
				Both	6
				Not stated	24
Total		Total		Total	
	64		64		64

It has been claimed that improper practices played an important part in primary syphilis of the tonsil. In fact Osler,¹⁰ in his latest edition, states that "mouth and tonsillar sores result, as a rule, from improper practices." This is not in accord with our experience and from the published cases such practices seem to play a very slight part. Kissing is given by far the most prominent position, and next the careless use of drinking glasses and eating utensils. Pipes, mouthpieces of wind instruments, the nursing-bottle nipple, hard candy that had been in the mouth of a syphilitic, cigar and cigarette stubs picked up soon after having been thrown away, tonsillotomy Eustachian catheter, common blowpipe in glass factories,—now no longer allowed—mouth to mouth insufflation of a new-born baby, etc., etc., have been reported as the mode of infection.

Sore throat is usually the first symptom noticed by the patient, followed by swelling of the tonsil and a stinging pain on swallowing.

A hard, usually painless and non-inflammatory enlargement of the gland under the angle of the jaw on the same side appears at the end of from one to three weeks. On physical examination the tonsil is enlarged, of a deep red color, the pillars also may be red and swollen, and a varying sized ulcer or erosion on some part of the tonsil is usually seen which is generally covered with a dirty, grayish secretion or false membrane. It is this appearance that has caused the condition to be mistaken for acute tonsillitis, diphtheria, Vincent's angina and peri-tonsillar abscess—or where hypertrophy is slight, to consider it a mucous patch. Chancre often appears in tonsils previously enlarged or subject to inflammations. The large crypts and follicles are ideal incubators for the spirochætæ. Chancre of the tonsil becomes decidedly indurated early in its course. In fact it behaves much like initial lesions elsewhere and is usually a constructive and not a destructive process, an erosion situated on an indurated base.

Fournier⁹ describes five clinical varieties. (1) erosive, (2) ulcerative, (3) quinsy-like, (4) diphtheroid, (5) gangrenous. These

terms are sufficiently descriptive without going into details. I believe the first two are the more common.

It has been said the diagnosis of extra-genital chancre is not usually difficult provided such a possibility is kept in mind. I should keenly regret being deprived of a dark-field illuminator or the use of stained smears as a means of searching for *Spirochæta pallida* in serum from suspected tonsils, but I believe it possible to make a positive diagnosis of chancre of the tonsil in most, if not all cases, from a purely clinical examination—which includes the history of onset, appearance to sight and touch of the tonsil and the behavior of near-by lymph glands. There is a tendency, nowadays, to rely too much on a laboratory report without making a definite clinical diagnosis. Clinical findings should be verified by the dark field and the Wassermann reaction.

In looking up reported cases I was impressed by certain statements at variance with the natural history of syphilis. Several have expressed their opinion and quoted others to confirm them, that extra-genital syphilis, especially about the mouth or throat, is likely to be followed later by severe manifestations. Others have said that in primary lesion of the tonsil, secondary manifestations appear much earlier than usual: stating that the roseola is often present when the patient first consults a doctor. Fournier said long ago that syphilis is syphilis, and the case of extra-genital infection runs the same course, liable to have the same complications as the genital—the developments being in no way modified or influenced by the site of the infection or the mode of inoculation.

Thrasher (loc. cit.) recommended a radical tonsillectomy if the case is seen before the appearance of secondary manifestations. He feels "there is a chance for complete removal of the contagion by an early and thorough operation." The uselessness of trying to abort the disease by excision of the primary lesion was conclusively demonstrated many years ago. However, since the discovery of the cause of the disease, excision of the primary sore has again been suggested in the hope of ridding the system of the focus of infection and in that way modifying the subsequent course of the disease. This is a theory with the proof of benefit lacking so far as I am able to learn.

Owing to the long period of incubation it is seldom possible to determine the source of contagion in chancre of the tonsil as in other extra-genital infections. Chancre of the tonsil should be considered in all sore throats, especially if unilateral, lasting over two weeks and failing to respond to treatment for simple angina.

It must be differentiated from:

- (a) Acute tonsillitis.
- (b) Peri-tonsillar abscess.
- (c) Vincent's angina.
- (d) Diphtheria.
- (e) Tuberculous ulcer of the tonsil.
- (f) Malignant disease.
- (g) Mucous patches (secondary syphilis).
- (h) Gumma of tonsil (tertiary syphilis).

In all of the above conditions the behavior and character of the nearby lymph glands is most important in making a correct diagnosis.

In peri-tonsillar abscess it is difficult for a patient to open his jaw sufficiently for a satisfactory visual or digital examination. The median raphe and uvula are pushed toward the healthy side and the tonsil may be fluctuant. Fever, chills and foul breath may also be present. If glands are enlarged they are tender and painful—like any gland from septic absorption. The motion of the jaws is not limited in chancre.

Smears from Vincent's angina show the symbiosis of short, thick spirochaetae and fusiform bacilli—either stained or with the dark field. In diphtheria, stained smears or cultures will verify clinical findings and glands, if present, are tender and painful. Malignant disease and tuberculosis are slow in development and lymph-glands enlarge late in the course of these diseases. No glandular enlargement accompanies gummata.

It may seem unnecessary to include diphtheria. Before the isolation of the organism of either disease, mistaken diagnoses were not uncommon. At present, however, there would seem to be little excuse for such an error. Nevertheless, within a month a patient came to a department of the Massachusetts General Hospital where he had formerly been treated, complaining of a sore throat. He was promptly referred to the Throat Department with the question of peri-tonsillar abscess. Knowing that I was interested in primary lesions of the tonsil, the patient was brought to my department with the above diagnosis for a dark field examination to rule out primary syphilis and Vincent's angina. A tender enlargement of the gland under the angle of the jaw had preceded the sore throat by ten days. On palpation it was not the satellite bubo of a primary syphilis. On examining the throat, diphtheria was suspected. The dark field was negative but stained smears showed Klebs-Loeffler bacilli. The laryngologist was so intent on peri-tonsillar abscess that the possibility of diphtheria had not occurred to him.

Several cases of primary chancre of the tonsil are reported which had been diagnosed diphtheria and antitoxin given—the appearance of a secondary syphilide first revealing the true condition.

REPORT OF CASES.

CASE 1. A domestic, aged 28 years, noticed a sore throat which was soon followed by a marked swelling under the angle of the jaw. She had been treated at a hospital where the swelling was considered an abscess and freely incised, but no pus found. The roseola developed while she was still in the hospital, recovering from the unnecessary operation, and when I first saw her the tonsil was cicatrized but still indurated and the gland still hard.

CASE 2. A young man, subject to attacks of tonsillitis, noticed a swelling under the angle of the jaw, accompanied by slight sore throat. He was treated at his usual clinic several times without relief, and finally a bit of tissue from the nose was removed for histological examination, as malignant disease was suspected. Becoming impatient he went to another throat clinic, where he was told the gland was due to a decayed tooth. This was extracted and still no benefit. He returned to the first hospital to learn the result of his biopsy. At this visit an eruption on the skin was detected and he was informed he had syphilis, but the tonsil was not suspected as the site of his primary lesion.

He was sent to me for treatment, still showing the remaining induration of the tonsil and the enlarged gland under the jaw, which was a typical satellite bubo. Syphilitic infection through the tonsil explained everything. He soon after developed mucous lesions on the tonsils and soft palate, and while showing him at a clinical demonstration for dental students, attention was called to the importance of using a tongue depressor in making a thorough examination of the mouth and throat before doing dental work, emphasizing how easily the lesions on the tonsils could be overlooked. The patient then remarked he had been there the previous week and had work done without suspicion. All cases are supposed to be examined by the instructor in charge of this dental clinic before being assigned to students for treatment.

CASE 3. A young man was taken with severe headache, backache and sore throat, especially the right tonsil, on which he noticed a whitish patch, and sent for the family doctor. Cultures were taken which showed streptococci but no diphtheria organisms, whereupon streptococcal vaccine was given for four successive days. The gland under the angle of the right jaw showed a hard, painless swelling. On the fourth day of his illness, the patient noticed a small papular eruption on forehead and chest, which at first was considered in some way the result of the opsonic treatment.

The eruption persisted, and recalling the initial headache and backache, the physician became apprehensive of smallpox. A conference with the local health department was held, and an expert from the state board was called. After three visits it was declared a case of smallpox and the patient was sent to the isolation room of a smallpox hospital, where the physician in charge, recognizing that it was not variola, said he would have had no hesitation in calling it syphilis if he could have found the remains of a genital sore. The enlarged gland in the neck pointed to the tonsil as the site of infection and the puzzle was solved.

In one of my cases the tonsil had been lanced for a peri-tonsillar abscess and no pus found. In another, the satellite bubo was carefully dissected out for supposed tuberculous glands and the boy sent to the country to recuperate. Still another was told by a general practitioner that the eruption on the skin and the lesions in

the throat were due to stomach trouble and the patient continued to work as a cigar maker, moistening the tips of the cigars in his mouth.

During the past 16 years I have seen 64 cases of primary syphilis of the tonsil on which I have more or less complete notes. A few other cases were not immediately tabulated and cannot be included. The first case was a boy of 6 years who had suffered from repeated attacks of tonsillitis and, receiving treatment at various clinics, raised the question of infection from instruments. He is now a healthy looking six footer. In none of these individuals has the disease run an unusual course.

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DISCUSSION.

DR. WILE said that it was now generally conceded that the old view that syphilis resulting from extragenital infection ran a more serious course, was explainable on the basis that such extragenital sores were not recognized and that the cases received little or no treatment in the early months of the infection. He had lately been impressed, however, with the idea that after all there may be another reason for the seriousness of extragenital syphilis. In the first place, it had been his experience that a tonsil in which a chancre had developed never quite resumed its normal size. In one case, at least, that he was familiar with, extirpation of the tonsil was performed several months after the chancre occurred, and after several months of vigorous treatment spirochætæ were still found in the lymphatic tissue of the tonsil. Recently, the clinic with which he was connected published the results of the examination of 100 cases of primary and secondary syphilis, with respect to enlargement of the spleen. They had been astonished to note that 36 per cent. of such cases had an enlarged spleen. Of this number, a large percentage developed firm spleens which persisted for many months, notwithstanding the most vigorous treatment. It seemed to him, therefore, that in lymphatic tissue the spirochætæ or their rest-forms, if such existed, may lie dormant, and from such sources be re-discharged, from time to time, into the circulation, and perhaps in this way be responsible for late sequelæ. The persistence of the spirochætæ from tonsillar sources, therefore, might easily account for the apparent seriousness of extragenital syphilis when the primary lesion was so situated.

DR. POST said that he felt very strongly that chancre of the tonsils deserved more attention than was generally given to it. He could recite case after case

where it had been overlooked by persons who were thought to be well informed. The tendency to consider it as diphtheria had by no means disappeared. He recalled one instance of a servant girl who was believed to have diphtheria, but there was failure to find the Klebs-Loeffler bacillus, and it was only when a general eruption appeared, that the possibility of a syphilitic infection was considered. Another case was cited in a man, in whom the diagnosis of urticaria and measles were made by different physicians, before the correct diagnosis of syphilis was arrived at.

DR. DAVIS said he desired to make a confession. During the last summer a servant in his own family complained of a carious tooth. He sent her to the village dentist for treatment. Some weeks later she complained of a large, firm, egg-sized growth in her neck, under the right jaw. He took her to the Pennsylvania Hospital the same day and consulted with the two surgeons on duty, as he feared she had some malignant growth—perhaps a beginning sarcoma. They both declared that it was not sarcomatous and referred the patient to the X-ray department. That department reported that there was nothing wrong with the bone, but said the case belonged to the dentist. The dentist (his own family dentist) said that it was “arsenical necrosis” of the bone, and treated the case for some weeks, and his diagnosis was accepted as satisfactory. In the course of time a beautiful syphilitic secondary eruption appeared, and the case was then very clear. Each doctor had been throwing sand in the other man’s eyes, and the true nature of the infected gum was not recognized.

DR. C. J. WHITE said that there was a great deal in favor of the old observation that extragenital chancre usually resulted in a more severe infection. One reason for that was that the extragenital chancres located on the extremities were usually the result of a trauma and were generally deeply implanted at the start. In the case of extragenital chancres on the lips and mouth, we were dealing with tissues that were rich in lymphatics and blood vessels which offered opportunities for rapid dissemination.

DR. SMITH said that he had nothing to add, except to agree with Dr. Wile that undoubtedly the tonsil was a very favorable site for the spread of the infection, probably along the line of the lymphatics. In histological sections from papules, condylomata, etc., the spirochætæ were seen almost entirely in the intercellular spaces. This was evidently one of their important routes of invasion.

TRICHLORACETIC ACID AND ITS USES IN DERMATOLOGY.*

By CHARLES N. DAVIS, M.D., Philadelphia.

ACID acetic, $\text{CH}_3 \text{COOH}$.
Acid trichloroacetic, $\text{CCl}_3 \text{COOH}$.

Three atoms of hydrogen in the methyl group in acetic acid have been replaced by three atoms of chlorine. This acid was discovered by Dumas.

* Read before the 39th Annual Meeting of the American Dermatological Association, New York City, May 13-15, 1915.

Trichloroacetic acid, as a test for albumin in the urine, is the most delicate test, but, as it also coagulates mucine, which is a constant constituent of urine, it is of no value, as there is no way of differentiating between the coagulum which is produced by its action upon mucine and albumin.

On the tissues, Dr. Alonzo Taylor informs me that trichloroacetic acid combines with albumin and globulin to form an insoluble, irreversible colloidal complex. This is similar to, if not identical with, a coagulation.

Its action as a cauterant is, probably, deeper than nitrate of silver, and not as deep as phenol, and, I think, it has a selective action for and on epithelial tissue.

Some twelve or thirteen years ago, Dr. William R. Hoch, a laryngologist at the University of Pennsylvania, called my attention to the fact that when trichloroacetic acid was used as a cauterant on the mucous membrane of the mouth, a *dry eschar* was formed. It then occurred to me that a drug that would cause a dry eschar on the skin, especially on the face or exposed parts, would be of distinct advantage, as this dry eschar, if properly sealed over, would prevent the invasion of organisms and hence little or no invasion of the pus-producing agents, and the resulting ulceration and consequent scarring—a result we all wish for, especially in females.

I first used it on patches of degenerative seborrhœa and on pigmented moles, and the results were very good.

The method I find most satisfactory in its employment is, first, to thoroughly cleanse the surface of the skin with benzine—to remove the oil so as to facilitate the acid's penetration; second, to further cleanse the area with an alcohol-pad. In my office I use cologne; then I apply a saturated solution of the acid to the area to be operated on with a bit of cotton twisted on a Japanese bamboo toothpick until the surface turns a milk-white. Next, I apply a pad of cotton wet with water. This appears to cause the acid to act more thoroughly on the tissues. When I think the acid has acted sufficiently, I neutralize it with an alkaline solution, preferably a 4% or 5% Labarraque's solution. The cauterized area I cover with an "ichthyol varnish," i.e., 25% ichthyol in a saturated solution of boric acid, to which is added eight grains of tragacanth, to each ounce, to emulsify. When nearly dry, I embed a bit of teased-out cotton. This acts the same as the woof in a carpet. This I again paint over with the ichthyol varnish. When dry, this makes a fixed, permanent dressing. I see the case from day to day, and, if no signs of secondary infection occur, I allow this original dress-

ing to remain on until the wound heals over. In the vast majority of cases, I find there is no secondary infection to be contended with, if the whole procedure has been done under proper aseptic precautions.

The ailments in which I have found it most useful are the same as Dr. Heidingsfeld, Dr. Lanz and Dr. Montgomery have reported in their respective articles, viz., pigmentations, papillomata and naevi, and also some other diseases. I have never used it in lupus vulgaris. In the soft and flat variety of warts, in the seborrhœic, and in the warty-mole and especially in the verruca senilis type, I find the acid's action is better facilitated by a preliminary treatment, as follows: To macerate and remove the horny layer and the accumulated secretions by the application of salicylic acid plaster to the area to be cauterized, this salicylic acid plaster to be covered in with a larger piece of ichthyol plaster. The patient wears this dressing continuously, if possible, for 4 or 5 days. This softens the growths and exposes the papillary processes. The acid then, when applied, denaturizes the tissues and causes thrombosis, and, hence, plugs the vessels—exactly as our grandfathers did in the olden days with the silk-thread treatment.

In the horny, tough variety of the elevated wart, especially on the hands in children, I find it necessary to use the naked bamboo toothpick and to pierce the growth in several directions. Sometimes this is painful, at other times not.

Xanthoma palpebrarum. In this disease, I think, the acid is the ideal form of treatment. One painting usually suffices to remove the growth. Here I stretch out the eyelid to widen the patch and to make sure the edge is cauterized, otherwise small islands will remain. Carefully dress with the ichthyol varnish afterwards, without embedding the cotton. The resulting scar, as a rule, is slightly depressed, and the eye-lid folds back as normally. In the so-called spider naevus, its action is excellent, as it forms a thrombus in the little aneurysmal loop. In the pea to bean-sized, elevated, compressible naevi in children, I prefer the acid to the carbon dioxide snow, as it is easier to manipulate, it causes little pain, it makes the dry eschar so easy to dress, and we avoid the bleb formation and the subsequent, often secondary pus infection. In this variety of naevus, after cauterizing the area, I press gently down into the compressible cavity, using a little cotton on a Swedish match-stick. This pressing causes pain. In molluscum contagiosum, the use of the acid is the most satisfactory of all remedies to me, as it is painless when applied to these growths if the adjoining healthy skin is not touched.

Usually one painting of the surface of these growths causes them to dry up and fall off in a few days. I follow this up with a germicidal dusting powder when lesions are on the trunk. On the face, I paint them with ichthyol varnish. The same may be said of the small fibromata of the neck and chest.

I have cauterized as many as 100 or 150 of these at one sitting, especially in ladies of the "fair, fat and forty age"—those who desire to display their shoulders at the opera. The only discomfort complained of here is the urticaria-like itching caused by the acid. I have the patient use, after this operation, a carbolic-boric-salicylic dusting powder and seldom have any secondary infection.

In beginning rodent ulcer, and the small variety of superficial epithelioma of the face, especially where the patient objects to the knife, and in those cases where you think it is better not to tell them the nature of the ailment, I can recommend most highly the following procedure: Remove the crusts, wearing a salicylic-diachylon ointment for a few days, dust on powdered cocaine to the raw surface. The cocaine, I find, causes complete anæsthesia, then curette; again dust on more cocaine and cauterize the base and a sixteenth to an eighth of an inch outside of the border. Cover with ichthyol varnish. This I find much more satisfactory than the old method of caustic potash and pyrogallol. I have frequently had these heal without removing the original fixed ichthyol varnish dressings. This method I also use in the so-called benign cystic epithelioma with good results.

In fissures of the mouth and lips, and about the nares and anus, I have found this acid an invaluable remedy. So also in the lichen planus papules in the mouth. In herpes simplex it has acted well for me. It coagulates the vesicle and inhibits infection of the lesions.

In lupus erythematosus I have had good results in some cases, in others not.

In milium it is most satisfactory. A portion of a drop is applied to the summit of the lesion on the sharp point of a bamboo tooth-pick. In a few days the eschar falls off.

In acne varioliformis it has worked well for me. I apply it to the pus cavity (after first opening up with dioxogen) by thrusting into the cavity bamboo tooth-picks with a small bit of cotton on the end of the sharp portion, saturated with the acid. These tooth-picks I allow to remain in the skin a few minutes. The patient looks and acts like a fretful porcupine, especially as this is a rather painful procedure, but the results are satisfactory.

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DISCUSSION.

DR. McEWEN asked why Dr. Davis specified Japanese bamboo as the material of the toothpick used in the application of the acid.

DR. STELWAGON said that he had been in the habit of using trichloroacetic acid and for xanthoma palpebrarum considered it one of the best methods of treatment that he had. He had formerly used electrolysis in this condition, but it was much more painful and often required several repetitions. Trichloroacetic acid rarely required more than one thorough application, although in the treatment of xanthoma he was rather conservative in the treatment, preferring to repeat it at the end of a few weeks, if necessary, rather than to be too vigorous at first. In one or two instances there were patches of depigmentation following, looking like vitiligo. He did not know whether that was due to the operator, to the remedy, or to the patient.

Another condition for which he had used it was the treatment of warty growths. The management of these benign growths did more damage to the reputation of the physician than any other trouble of a trifling nature that he had to deal with. In such conditions he employed the acid in the manner described by Dr. Davis, using a hard, sharp Japanese tooth-pick, boring the growth around the base at several points. Another condition in which he had found it valuable was the treatment of plantar warts. The calloused condition was painted daily, for several days, and then gently cut away down to the sensitive part. The applications of the acid were again repeated, and so on. The growth gradually became less painful, and finally, in most cases, disappeared.

DR. MACKEE said that he also could testify to the efficacy of the acid in the treatment of xanthelasma. The main point was not to try to do too much at one application, in order to avoid pigmentary changes and keloid formation. He hoped that Dr. Davis would elaborate somewhat on the technique. He himself had used plain water, and had not employed alcohol or alkaline solutions to neutralize the acid.

While it was well to adhere to the subject under discussion, he wished to say that in plantar warts he had not been well pleased with the acid as compared with the X-ray. In the majority of cases these lesions could be cured by one or two X-ray exposures. He did not think any other treatment was so efficacious.

DR. STELWAGON said that the treatment of xanthoma gave the patient freedom from the blemish for two or three years, and then the growth will gradually return; a second application will then give another period of freedom, but he could not say that the condition was permanently cured by this or any other method. In the treatment of ordinary warts, it was the getting some of the acid inside and under the callous material which produced the curative effect; doubtless the forcible puncturing with the toothpick had some influence.

DR. DAVIS, answering Dr. McEwen, said that he preferred to use the Japanese toothpick, for it was very hard, and therefore only took up a fraction of a drop of acid. He had found that if he used too much of the caustic, he was apt to get the acid where he did not want it. He had also used Swedish toothpicks in some cases, as when he desired more acid than the bamboo toothpick would pick up.

Replying to Dr. MacKee, he said that he found it valuable to neutralize the acid to stop its further action, and also to avoid secondary infection of the skin.

TUBERCULOSIS OF THE TONGUE.*

By WILLIAM BLANCARD, M.D., New York.

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(From the Department of Dermatology and Syphilology, College of Physicians and Surgeons, Columbia University.)

THERE is probably no disease so prevalent as tuberculosis, and still tuberculosis of the tongue is extremely rare and usually coexistent with tuberculosis of the lungs. At the Vanderbilt Clinic, with its large classes in all diseases, our records show only three cases.

It is a matter of history that tuberculosis of the tongue was not definitely known to medical science before the latter part of the nineteenth century. To illustrate how rare it is, it may be proper to mention the results from an anatomical standpoint, as found by Willigk in 1,317 autopsies on tuberculous subjects. He recognized only two cases. Fisher, according to Dalla Vedova, gives 6 cases in 1,500. Fowler and Godlee, 4 cases in 382. Chiari, 12 in 625. Warthin, 1 in 42; a grand total of 25 cases of lingual tuberculosis in 3,935 autopsies on tuberculous subjects, or .063%. All cases are unquestionably secondary in character, although not specifically stated as such in the reports.

The statistics of Hamel as to complications in certain German sanatoria, where only cases of comparatively recent development were admitted, record only one case in 12,369. On the other hand, Chappell observed 15 cases in his practice of only six years. In the Winyah Sanitarium, during a period of 25 years, 19 cases were observed in a total of 5,000 cases, giving a clinical frequency of .038%.

According to certain clinicians, any age may be subject to the disease. It rarely, however, affects children. Most of the cases have been either in the young or in middle-aged adults. Zintmaster's case of a man 80 years of age may be cited as an exception. The period of most frequent occurrence has been between 20 and 48 years. My three cases were respectively 60, 32 and 29 years old, all males, in which sex it is most usually found.

SYMPTOMS. These are entirely local in character, as would be ex-

* Read before the Clinical Society of the Department of Dermatology, Vanderbilt Clinic, March 15, 1915.

pected. A slight stinging pain characterizes the ulcer, aggravated by any motion involving the tongue. The motility of the tongue is somewhat impaired owing to the infiltration of the tissues involved, which in turn interferes to some degree with distinctness of speech. The form of the ulcer is either oval or irregular in shape, with well defined edges, but there is no tendency to penetrate the deeper tissues.

The following description by Dr. J. H. Evans, *British Medical Journal*, 1912, pp. 1283-1286, I have found very accurate.

"Tuberculous ulcers are usually situated on the dorsum, or at the tip of the tongue. They are readily recognized as pallid, solitary sores (in my cases, however, two were multiple and one was single). They have sharply cut edges; the base is usually indolent, devoid of induration; they are invariably associated with pulmonary and laryngeal tuberculosis. With such associated manifestations, the lesion is recognized with no great difficulty. When, however, the ulcer occurs primarily on the tongue, the question as to its nature becomes a more difficult one from a clinical standpoint."

To the naked eye the base of the ulcer may appear to remain stationary for a time, except for the extension of its satellitic foci. It may cause little, if any, inconvenience, and may resist all treatment, except by caustics, cautery or curette. Curettage is an ideal treatment. Its slow progress is, however, rendered apparent if examination is closely made, with a good lens.

If an ulcer is suspected of being tuberculous, the following considerations should be kept in mind as having a definite bearing on the diagnosis, treatment and prognosis; namely, the age of the patient and the existence of tuberculosis in other parts of the body. The following tests have been resorted to:

1. Tuberculin tests.
2. Examination of sputum for tubercle bacilli.
3. Inoculation test. (Guinea pig.)
4. Scraping of ulcer. (Epithelioid cells, tubercle bacilli.)
5. Excision of a piece. (Epithelioid cells, tubercle bacilli and giant cells.)

(A) Calmette's ophthalmic reaction. A drop of tuberculin (T. O. A.) is instilled into the conjunctival sac. In tuberculous patients, an inflammatory reaction will result in twelve to twenty-four hours.

(B) The skin inunction test or Moro's cutaneous reaction. Equal parts of tuberculin (T. O. A.) and hydrated lanolin are rubbed into the skin, when a similar reaction to von Pirquet's will result.

(C) The cutaneo-inoculation (von Pirquet reaction). The skin

of the forearm is cleansed, scarified and inoculated with a drop of tuberculin (T. O. A.). In about 24 hours a reaction occurs, followed by a characteristic papule or vesicle.

(D) Tubercle bacilli found in sputum.

(E) Inoculation test. An emulsion is made of the scrapings from the ulcer and inoculated into the peritoneal cavity of a guinea pig.

To these tests may be added a radiograph for the purpose of ascertaining the true condition of the lungs.

The tuberculin tests have clinical limitations. The results fall short of the requirements for an ideal diagnostic method in suspected tuberculosis, though relatively good in confirmation of the clinically tuberculous.

Scrapings are unsatisfactory. Very often only the detritus of necrotic cells is obtained.

In the case of the tongue, a piece can be easily excised for microscopic examination, and this procedure should be adopted.

In diagnosing tuberculosis of the tongue the following diseases should be taken into consideration:

SIMPLE ULCER. This condition is of recent appearance and of obvious causation, such as a sharp tooth, local trauma or glossitis. It is characterized by the absence of neuralgic pain, and also by the absence of peripheral induration. Though tumefaction may not be evident to the naked eye, a certain amount of local œdema is distinctly seen by means of a lens. Furthermore, there is an absence of lymphatic enlargement and of a foul deposit in the neighboring teeth, except that which may be accounted for by decay or neglect of cleanliness.

ACTINOMYCOSIS. This is a disease not ordinarily met with, but should be kept in mind. *Actinomyces* must be found. The diagnostic sign of this disease lies in the yellow granules, visible to the naked eye, greasy to the touch, which when placed under the microscope reveal the distinctive characteristics of the growth. A microscopic examination of a section will make the diagnosis positive.

SYPHILIS. Of all the diseases of the tongue, this is probably the most common. It is found in the following forms:

1. Superficial. Primary lesion or chancre. This form is rare. Fissures and ulcers on the dorsum of the tongue are irritable and sensitive to the touch.

Ulcerous indentations around the edge of the tongue.

Sessile or warty growths, often multiple; more or less distinct patches of leukoplakia.

2. Deep (gumma). Hard masses formed in the very substance

of the tongue. The surface is raised and, on breaking down, leaves a crater-like excavation with little or no peripheral induration. Its deep base is covered by a yellowish-gray secretion.

The diagnosis is confirmed by the multiplicity of lesions on the tongue, palate, lips, gums and cheeks, with concomitant manifestations of syphilis elsewhere. These ulcers are, as a rule, painless. Further confirmations of the specificity of the lesion may be determined by the

- (a) Wassermann reaction.
- (b) Dark field examination for *Spirochæta pallida*.
- (c) The luetin reaction (Noguchi) may be of value.
- (d) Intensive anti-syphilitic treatment.

LEUKOPLAKIA. Leukoplakia shows itself in the form of white patches of variable duration, accompanied by slight, if any, pain. They may be found on the cheeks, gums, lips and palate. They are frequently observed in older people, addicted to the use of tobacco. They are supposed to be a forerunner of cancer, in some instances.

CANCER. Males 85%, females 15%. Occurrence: as a rule after middle life, between forty and sixty years. Causation: irritation from jagged teeth, ill-fitting tooth plate, glossitis and the smoking habit.

Clinical Appearance. The tumor is usually situated on the sides of the tongue, less frequently on the tip or dorsum. It is indurated, grows rapidly and has a tendency to involve the floor of the mouth in a short time. The lymph glands are always involved, first the submaxillary and then the cervical. As the condition progresses, the pain becomes excruciating, especially while chewing and swallowing. The patient gradually loses in strength and weight and soon becomes cachectic. In extreme cases, the alveolar processes and gums may be attacked and aspiration pneumonia may follow. The diagnosis is made by microscopical examination.

LEPROSY. Nodular type, 73%; anæsthetic type, 35%. This disease is rarely found on the tongue alone. As a rule the skin on some other part of the body is affected, which will aid in the diagnosis of the lesion. A microscopic section will reveal the bacilli which are diagnostic.

CASE REPORTS.

CASE 1. The patient, A. K., was a man 60 years of age, born in Russia, a tailor by occupation. His family history was negative.

PERSONAL HISTORY. He is the father of 7 children, all of whom are living and in good health. With the exception of an attack of typhoid fever at the age of 14 years, he has always been in excellent health until two years ago, when hoarseness first appeared. For the past six months he has been troubled with

night sweats and has lost considerable weight. About the same time white patches appeared on the tongue and on the mucous surface of the cheek.

PHYSICAL EXAMINATION. On Dec. 15, 1912, shows a man above medium height, weighing 130 pounds. He is pale, poorly nourished, and cannot speak above a whisper; temperature, $99\frac{1}{5}^{\circ}$ F., pulse, 100. There is a half-dime-sized ulceration on the inferior surface of the tip of the tongue. The margin of the lesion is elevated $\frac{1}{4}$ inch and is firm to the palpating finger. The centre of the ulcer is depressed and covered with a grayish-yellow film. While the lesion is distinctly infiltrated, it does not present the cartilaginous hardness of epithelioma or chancre. There is a second ulcer on the buccal aspect of the lower lip $\frac{1}{2}$ inch from the right commissure. This lesion is not elevated and only very slightly infiltrated. No glands are palpable. Both ulcers are painful.

Tuberculous areas were scattered over both lungs. The sputum was loaded with tubercle bacilli. The scrapings from the ulcers were negative. The X-ray picture of the lungs showed marked shadows of tuberculous infiltration.

The Wassermann reaction was negative at the Vanderbilt Clinic and at the Rockefeller Institute, from where the patient was sent to us.

The patient died about 18 months later.

CASE 2. The patient, W. G., was a man 32 years of age, born in Germany, a laborer by occupation. His family history was negative.

PERSONAL HISTORY. He has always considered himself to be in fair health up to six months ago, when his hoarseness first began. A month later patches appeared in his mouth.

PHYSICAL EXAMINATION. The patient is a small, poorly developed man, weighing less than 115 pounds. He is cachectic and very hoarse. His temperature is 100° F. and pulse 105.

The tongue shows two ulcerations, one on the tip, about the size of a small pea, sharply defined, its base covered with a yellowish membrane; the other somewhat smaller, with the same characteristics, situated on the side of the frænum. No glands were palpable.

Examination of the chest revealed marked consolidation of the upper lobes of both lungs. The sputum showed many tubercle bacilli. The scrapings from the ulcers, stained for tubercle bacilli, gave positive findings. The Wassermann test was negative.

The patient did not return, and was seen only once.

CASE 3. The patient, T. H., was a man 29 years of age, born in this country, a laborer by occupation. His family history was negative.

PERSONAL HISTORY. Except for the diseases of childhood, he has never been ill until the beginning of his present trouble. Four and a half months ago he became hoarse, and about the same time a white patch appeared on his tongue near the tip.

PHYSICAL EXAMINATION. The patient is emaciated in appearance, 5 feet 9 inches in height, weighing 120 pounds. He cannot speak above a whisper. There is a deep, sharply defined, irregular ulcer on the dorsal surface of the tongue, close to the tip. There is practically no discharge and the lesion is not perceptibly infiltrated. There is some contact pain and a stinging sensation when the tongue is moved. No glands were palpable. Examination of the chest showed marked involvement of both lungs. The sputum showed numerous tubercle bacilli. The Wassermann reaction was negative. We were unable to obtain a biopsy.

HISTOPATHOLOGY OF CASE 1.

A piece of tissue was removed from the edge of the lesion, fixed in Zenker's fluid and stained with hæmatoxylin-eosin, polychrome methylene blue and Van Gieson's stain.

EPIDERMIS. In the specimens examined the epidermis was intact, but showed marked alterations. There was some acanthosis with considerable intra- and

PLATE XL.—To Illustrate Article on Tuberculosis of the Tongue,
by WILLIAM BLANCARD, M.D.



Fig. 2. Case 3.
Showing clinical lesion.



Fig. 1. Case 1.
Showing clinical lesion.

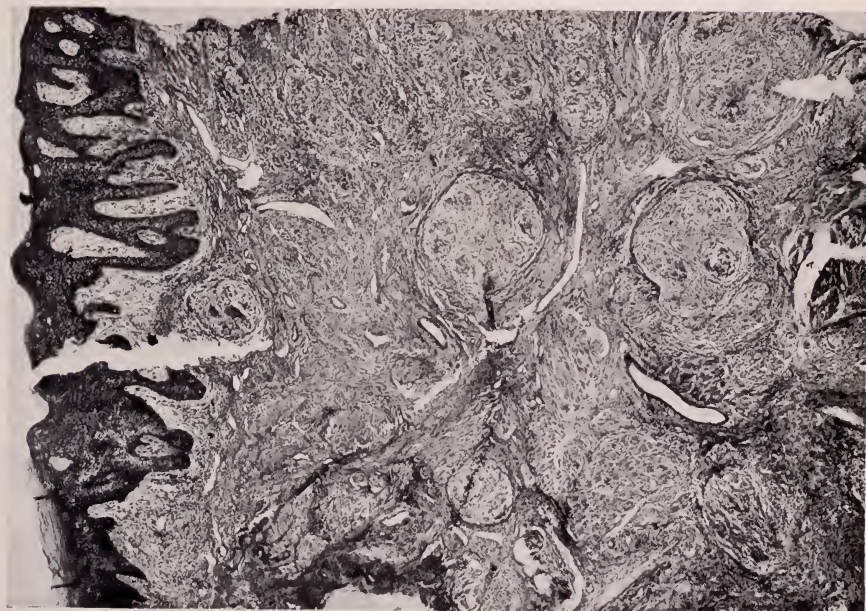


Fig. 3. Case 1.
Zeiss-Planar, 20 mm.
Showing tubercle formation.

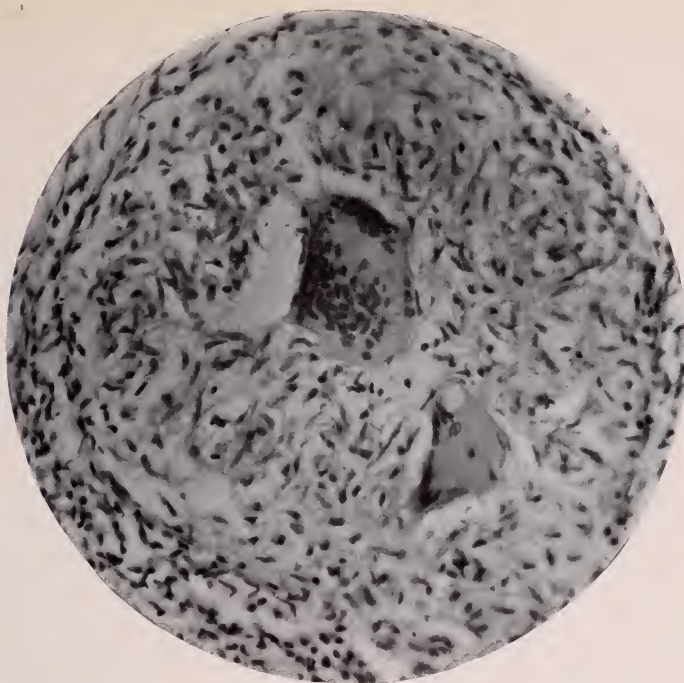


Fig. 4. Case 1.
Zeiss obj. 4 mm., Proj. oc. 4.
Showing giant cells in centre of superficial tubercle.

intercellular œdema. In places the œdema was so marked as to produce areas of cell disintegration, resulting in numerous vacuoles.

DERMA. The entire derma was œdematous and the blood vessels and lymph spaces were widely dilated. Some of the vessels showed thickened walls. A distinct mantling of the vessels with small round cells, as seen in syphilis, was not present. Instead, lymphocytes and plasma cells were scattered diffusely throughout the corium between the tubercles and extending into the papillæ, and in places even invading the epidermis. The greater part of the derma was occupied by typical tubercle formations, their centres being composed of necrotic tissue and giant cells, while lymphocytes, plasma cells, epithelioid cells and connective-tissue cells completed the lesions. Through degeneration, a marked rarefaction of the collagenous tissue had taken place.

TREATMENT. The only efficacious treatment for tuberculosis of the tongue is the local application of lactic acid, the actual cautery or curettage and the usual treatment for pulmonary tuberculosis.

The first of our cases died. The second failed to return, in all probability because he died. The third is still being treated, but without any apparent improvement.

Although the treatment of our cases appears to have been unsatisfactory, five cases are said to have been treated in the Winyah Sanitarium, in 1912, by Dr. Von Ruck, with old tuberculin and he claims to have obtained uniformly favorable results. He states that four of them are still living and in good health.

I wish to thank Prof. Fordyce for placing the clinical material and the facilities of the Department at my disposal, and Dr. MacKee for the photographs, microphotographs, and histological report, as well as Dr. James A. Cowan for his assistance with translations.

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SPECIAL ARTICLE.

ELEMENTARY INSTRUCTION.

PHYSICAL DIAGNOSIS IN DERMATOLOGY.

By D. L. SATENSTEIN, M.D., New York.

(Continued from p. 635.)

(3) TUBERCLES OR NODULES are of various sizes, shapes and colors, soft or firm, deeply seated, circumscribed elevation of the skin.

Size: Varies from pea to bean or larger.

Shape: None characteristic; base usually circular, may be irregular or angular; summit more or less acuminate, bluntly rounded or flat.

Color: Depends upon the nature of the lesion; may be dull coppery red, as syphilis, yellowish-brown, "apple jelly," as lupus vulgaris, yellowish, as xanthoma, purplish, as erythema multiforme, blackish-brown, as sarcoma, normal or pinkish, as lipoma and fibroma.

Occurrence and evolution: May be considered an exaggerated papule, with tendency to downward projection, involving deeper tissue as well as upward projection, taking in more surface; they are the result of inflammations and hypertrophies, but more often indicate new growths, either benign or malignant; they develop slowly and have their seat in the connective tissue of the corium surrounding the vessels, or in connection with hairy and glandular structures; they are usually multiple, occur either alone or are associated with other primary or secondary lesions; nodules of the inflammatory granulomatous type have a tendency to group and ring formation, and often extend peripherically and coalesce into infiltrations into the corium; are more or less persistent, with a definite anatomical structure and distinct clinical features throughout their evolution; disappear slowly by absorption, leaving stains and sometimes pigmented atrophies, or break down into ulcerations, followed by pigmented scars; some are permanent, remaining unchanged for months or years; they may be accompanied by subjective symptoms of burning, pain and itching.

TYPES. Not many, but with distinct clinical features and definite anatomical structure.

Inflammatory, non-granulomatous.

(a) Painful, of various shapes, moderately raised, rounded or acuminate, reddish, with or without inflammatory areola, tendency to aggregate; at first hard, later soft, deep-seated in connection with glandular and hairy structures, usually break down with deep-seated pus formation; examples, acne tuberosa, trichophytosis of bearded face.

(b) Painful, tender, of various sizes, slightly raised, usually rounded or oval, circumscribed, discrete, symmetrical, usually over tibia; yellowish-red to rose-red to violaceous, deep-seated, at first hard, later soft, never break down, disappear by absorption, as ecchymoses; usually accompanied by constitutional symptoms; example, erythema nodosum.

(c) Painful, somewhat tender, moderately large, convex, rounded or oval, circumscribed, much raised, crimson, no areola, tops studded with minute pustular points, which later dry into crusts; are soft, almost fluctuating, but contain no fluid; deep-seated around glandular structures; are more or less persistent, disappear by absorption, leaving persistent brown stains; example, bromoderma tuberosum.

(d) Painful, tender, not very large, not well-defined, usually rounded or oval, yellowish-red, sometimes normal skin color, appear to be under tension, almost fluctuating, but contain no fluid, tendency to group; deep-seated, in connection with glandular structures; are more or less persistent, disappear by absorption, leaving persistent brown stains; example, iododerma tuberosum.

(e) Not painful, not itchy, of various sizes, at first conical, later rounded or flat topped, deep purplish red, tendency to coalesce into slightly raised patches; never break down, disappear by absorption; usually accompanied by constitutional symptoms and other primary and secondary lesions; example, erythema multiforme tuberculatum.

Inflammatory, specific granulomatous.

(a) Not painful, pea size or larger, circumscribed, slightly raised or slightly depressed, brown yellowish-red, semi-translucent, soft, deep-seated, appear yellowish "apple jelly" on pressure; begin as papules, develop slowly, may coalesce into elastic, moderately firm, slightly raised patches, covered with grayish crusts or scales; may disappear by absorption, leaving cicatricial atrophy; have tendency to break down into ulcerations, resulting in depressed pigmented scars with lesions, to reappear in the scar tissue; example, lupus vulgaris.

(b) Not painful, of moderate size, circumscribed, discrete, associated with papules, slightly raised, light brown, hard, deep-seated, disappear by absorption, preceded by dry necrosis, leaving depressed pigmented scars; example, tuberculide.

(c) Not painful, not itchy, of various sizes, sharply defined, considerably raised, circular at base, bluntly rounded at summit, coppery red, tendency to group and ring formation, slight scaling at tops; are firm, deep-seated, disappear by absorption, leaving pigmentations, or may break down, ulcerate, covered with thick greenish crusts, "rupia," moderate inflammatory areola, leave whitish depressed scars; example, secondary and tertiary nodular syphiloderm.

(d) Not painful, not itchy, of various sizes, not much raised, yellowish-brown, moderately firm, moderately deep-seated, some tendency to coalesce, disappear by absorption, leaving stains, or may atrophy, resulting in atrophic scarring, or may break down and ulcerate, healing very slowly; may be accompanied by anæsthesia; example, nodular leprosy.

HYPERTROPHY OF SCARS. (See later article on scars.)

NEW GROWTHS.

Benign.

(a) Various sizes and shapes, normal to pale pink in color, hard or soft, skin

normal, loosely or tightly stretched, many or few lesions, no subjective symptoms, may remain unchanged or undergo malignant degeneration; examples, fibroma and lipoma.

(b) Not painful, not itchy, of various sizes and shapes, various shades of orange-peel yellow, fairly firm, not very deeply seated, tendency to group; persistent, remain unchanged indefinitely; example, xanthoma tuberosum.

Malignant.

(a) Not painful, not tender, of various sizes, very numerous or few, reddish, bluish to blackish-brown; may be slightly scaly; firm, may be superficial or deeply seated; tendency to break down into ulcerations, which practically never heal: example, sarcoma.

(b) At first small, circumscribed, rounded, light pinkish, waxy, traversed by fine superficial capillaries; not very hard, superficial; later, ill-defined, rounded or oval, or irregular, pinkish, waxy, moderately raised, tendency to crust formation at summit, fairly hard, moderately deep seated, reddish granulations under crust formation, tendency to break down, ulcerate and to extend peripherically; example, epithelioma.

DIAGNOSTIC VALUE. From the general character of the lesion, the diagnosis is not very difficult; in doubtful cases, the diagnosis may generally be cleared up by a study of the microscopical sections.

(To be continued.)

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, Mar. 23, 1915.

HANS J. SCHWARTZ, M.D., *President.*

TUBERCULOSIS OF THE SKIN SIMULATING SERPIGINOUS CHANCROID. Presented by Dr. Fordyce.

Dr. FORDYCE said that the patient had been an inmate of the City Hospital for two or three years. When he came under his observation a month previously, the man showed a very extensive serpiginous ulceration involving the thighs, perineum and the perineal region. In the centre of the ulceration there was atrophic scarring. The patient had previously had similar lesions on the penis, which had led to very extensive scarring and deformity of this organ. The history which he gave was that the ulceration had appeared on the penis about three years before, and had slowly spread in the manner indicated. A diagnosis of serpiginous chancreoid had been made, but the lesions failed to heal under curettage and the application of caustics. His Wassermann reaction was negative. A microscopic examination of a piece of excised tissue was made by Dr. Larkin, who reported the condition to be a tuberculosis of the skin.

DISCUSSION.

Dr. WINFIELD said that he had under observation a case of tertiary syphilis which was clinically similar. His patient had also a patch on the foot. The man had been troubled with the condition for three years. Dr. Winfield said that at first he thought it was tuberculosis, but that it had cleared up under specific treatment.

Dr. CLARK thought that the color of the patch and the distinctly undermined character of the tissues spoke very strongly for tuberculosis, also the warty look of the growths near the rectum. He agreed with the diagnosis of tuberculosis.

Dr. POTTER said that it was especially interesting to him after having seen Dr. Winfield's case of gummatous lesions appearing in the same location and similar clinically to this case, though there was a distinction between the two. The scars were different: in Dr. Fordyce's case, instead of being an atrophic soft scar as in the syphilitic case, it was a warty scar, and the edges were different, also. If the two cases were seen side by side, the differences could be clearly seen.

Dr. TRIMBLE said that it was not usual to see such great ulceration in skin tuberculosis, but the points made by Dr. Clark about the color and the undermined edge all pointed to tuberculosis. Most cases of tuberculosis of the skin, however, did not show this extensive ulceration, and were very different from this one.

Dr. FORDYCE said that as the case was now known to be tuberculosis, it was easier to point out the characteristic features of that disease, as Dr. Clark had done. The warty condition about the ulceration of the perineum and the undermined edges of the serpiginous ulcer were quite characteristic, as was the absence of nodules in the scar tissue. The patient did not present any evidence of tuberculosis of the prostate or bladder, nor were there any signs of tuberculosis of the testicles.

ANNULAR SYPHILIDE IN A NEGRESS. Presented by Dr. MacKEE for
Dr. FORDYCE.

The patient visited the clinic for the first time on the day of presentation, therefore the result of the Wassermann reaction was unknown. There was a history of recent conjugal infection. The eruption was generalized and assumed different forms in different locations. On the neck the lesions formed a band or collar which extended entirely around the neck. Here the lesions consisted of split-pea to dime-sized papules that had cleared in the centre. Where the central involution was just beginning, the appearance was that of the large umbilicated papules sometimes seen in lichen planus. Even the annular lesions markedly suggested lichen planus. To make the similarity more striking, there were adherent scales and the patient claimed that there was considerable pruritus. The entire back was occupied by confluent, scaly, silver-quarter-sized patches composed of coalesced papules. Here the eruption markedly resembled psoriasis. On the face there were numerous annular lesions, and the "mottled chin" of syphilis described by Trimble was well marked. There was only slight adenitis, and the mucous membranes were not involved. The duration of the eruption was one month.

DISCUSSION.

Dr. TRIMBLE said that it showed the peculiarity of skin lesions in the negro, and the difficulty of diagnosing them. Some of these lesions exactly resembled psoriasis.

Dr. WILLIAMS said that it was interesting to observe how some of the lesions were dissolving and forming circinate efflorescences.

Dr. WINFIELD said that many eruptions in a negro were likely to take on a psoriatic character. There was no doubt of the specific nature of this case.

Dr. WHITEHOUSE thought the entire eruption was a secondary papular syphilide. The condition to which Dr. Williams had referred was a characteristic of what was frequently called a resolving papular syphilide. The lesions on the neck were especially characteristic of that—the large, resolving papular syphilide.

Dr. POTTER said he had been particularly struck with the multiform character

of the lesions and the annular form of eruption limited almost entirely to the neck—the collar effect.

LEPRA. Presented by DR. MACKEE for DR. FORDYCE.

The patient had been under observation for two years and had been presented previously to the Society. She was born in Germany, near Hamburg, and had lived in America for thirty years. The leprosy developed seven years ago, making a probable incubation period of twenty-three years. During the entire thirty years she had never been beyond the limits of New York City.

Over the chest, abdomen, back and thighs were large, smooth plaques of slight infiltration and of a bronze color. On the arms, forearms and thighs there were numerous nodules. The hands and feet were considerably swollen. The legs, below the knees, showed a sclerodermatous condition. The interesting feature of the case, however, was an acute eruption on the face and neck. The entire face was slightly œdematous and noticeably red. On the cheeks and neck there were infiltrated, violaceous, scaly plaques that markedly resembled lupus erythematosus. This eruption was of three weeks' duration. The lobes of the ears depicted nodules and a few similar lesions were noted on the forehead, near the eyebrows.

A biopsy was performed on one of the neck lesions and the lepra bacillus was demonstrated. A slide made from this tissue was shown to the Society. The Wassermann reaction was strongly positive, and for this reason Dr. Fordyce had suggested the use of intensive antisyphilitic treatment, to see what influence such treatment would have on the Wassermann reaction. The speaker said that he would like to see the patient treated with the X-ray, for the reports from the Philippines had been very encouraging in this respect.

DISCUSSION.

DR. WINFIELD said that Dr. MacKee had emphasized the long period of incubation, implying that she had possibly been exposed in Germany. One should not forget that there are a number of cases in New York, and she may have contracted the disease here.

DR. FORDYCE said that the most unusual feature of the case was the scleroderma-like condition of the extremities, which could probably be referred to a leprous lymphangitis. It was not unusual to see, in certain stages of leprosy, a hard œdema of the hands and feet which slowly disappeared and left an atrophic condition of the parts. On the face he had noted a red, swollen skin which simulated at times a persistent erythema. This might be followed later by nodules. He had at present in his service at the City Hospital a Chinaman who had developed, during the past several years, frequent attacks of leprous fever, during which time numerous erythematous lesions appeared in the skin, which sometimes resolved and again left nodules.

DR. TRIMBLE said that the acute outbreak of the leprosy was to him the most interesting feature of the case. It was rather an unusual feature to see a case in New York with an acute outbreak. He then told of a young man of twenty-two years, who had an acute outbreak with febrile disturbance resembling grippe, with high temperature, and some soreness over the body. The eruption had somewhat the appearance of erythema multiforme. This disappeared and was followed by nodules developing in the sites of some of the lesions. The speaker asked if the lesions at first presented the same appearance as shown on presentation—bright erythematous patches.

DR. WINFIELD said that he had seen one or two cases which had this erythematous-like eruption with high temperature, followed by nodules, and knew of one case where there were some nodules on the face. The American Dermatological Association and the American Medical Association had tried to get a bill passed

through Congress for the purpose of establishing leprosaria. It had passed the House and was then before the Senate, and it was very desirable that the members should write to the Senators and urge them to use their influence to pass it. If it should become a law there will be two or three leprosaria established in the country—one in California, and perhaps one here in the East.

TUBERCULIDE. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a peddler, 24 years of age. The eruption was of three years' duration, and followed a supposed chancre. The Wassermann reaction was negative. The general health was poor. There were lesions of acne vulgaris on the face, chest, and upper part of the back. Scattered over the back, chest, arms, buttocks and thighs were numerous split-pea to dime-sized nodules with ulcerating centres. There were also many scars, the result of former lesions. A biopsy was obtained, and the most noticeable feature in the histopathology was a peri-follicular, round-cell infiltration, such as was found both in syphilis and in tuberculide. A pathological diagnosis could not be made.

DISCUSSION.

DR. TRIMBLE thought it was a sebaceous gland condition. Many years ago he had presented a patient, a man, with very extensive lesions in which the necrotic element was more marked than in the case presented. In the beginning it probably was very much like this case.

DR. FORDYCE said that he remembered distinctly the patient of which Dr. Trimble had spoken, which had many points in common with the case shown. In Dr. Trimble's case there was pronounced scarring, but in neither was there anything to suggest their tuberculous nature. He had made a histological study of Dr. Trimble's case, which showed an involvement of the pilosebaceous apparatus with a marked inflammatory reaction in the periglandular tissue. There were no giant cells present.

DR. TRIMBLE said that the case to which he referred was of forty years' duration. The man was a little over fifty of age, and the lesions had started when he was ten or twelve years old. It was difficult to draw comparisons between a case of three years' duration and one of forty. The long duration of the one case may have accounted for the marked scarring, but clinically it probably looked like Dr. MacKee's case in the beginning.

LICHEN PLANUS OF THE PENIS. Presented by DR. WISE.

The patient was a negro, male, aged 35, single. He had never suffered from syphilis or gonorrhœa. On the shaft and glans of the penis, more especially its anterior portion, he presented about a dozen circinate and nodular lesions, some with depressed centres, others flattened, smooth and glistening, of lichen planus annularis.

The disease was limited to the penis, and had been located there since four months.

REPORT ON CASES PREVIOUSLY PRESENTED.

DR. TRIMBLE reported on the case of epidermolysis bullosa presented at the previous meeting. The patient was a young Italian man, 22 years of age, and the disease had existed since he was two years old. He showed a peculiar thinning of the skin on the knees, elbows, legs and forearms. When first seen he had also a bullous lesion in the mouth. Since then he had had several new bullæ form, dry up, and form crusts which dropped off. The patient gave a 4 plus Wassermann, and the pathological examinations showed an obliterative endar-

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teritis. Further histological studies had been made and showed an absence of elastic tissue.

Dr. WISE asked if Dr. Trimble thought it was a hereditary syphilide associated with the disease, or whether syphilis was acquired.

Dr. TRIMBLE replied that there was no history of acquired syphilis, although it was quite possible that it might have been acquired. The speaker further stated that the case in many respects was similar to one which Dr. Fordyce had presented several times—a young woman with nail changes and bullous lesions continually occurring in the mouth and also on the skin. This patient had the same condition in his palm, and the same nail changes, and the same milium-like bodies in some of the lesions.

Dr. FORDYCE said that his patient gave a negative Wassermann reaction.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

FRED WISE, M.D., New York.

Assisted by

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(May, 1914, cxx, No. 1.)

Abstracted by JOHN H. STOKES, M.D.

HEMANGIOENDOTHELIOMA TUBEROSUM MULTIPLEX AND LYMPHANGIOENDOTHELIOMA TUBEROSUM MULTIPLEX. LYMPHANGIOMA TUBEROSUM MULTIPLEX (KAPOSI). OESTREICH and SAALEFELD, p. 1.

The writers call attention to the fact that hæmangioendotheliomata and lymphangioendotheliomata of the types described are differentiated in the gross largely by their color. Microscopically, the proliferation of endothelium in the vascular and lymph spaces is the chief feature of interest. Microscopic examination is essential to a differential diagnosis.

CLINICAL CHART

Author	Identification	Number	Age	Sex	Occupation	Nationality	Year of Publication	Duration before observation	Subsequent duration	History of tuberculosis or syphilis	Subjective symptoms	General health	Location	Telangiectasia	Hemorrhagic puncta	Follicular involvement	Pigmentation	Atrophy	Annular lesions	Configurate lesions	Linear lesions	Desquamation	Remarks
Majocchi.....	E. J.	1	21	M.	Laborer	Italian	1896	1 1/2 yrs.	Under observation for few weeks only. No change.	None	Rheumatic pains in legs.	Good	Symmetrical on legs. Few lesions on forearms.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No		
Majocchi.....		2	Young man	M.		Italian	1898		Under observation one day only.	Family history doubtful.		Poor			Yes				Yes				Incomplete report.
Majocchi.....		3	8 mos.			Italian	1896 1898	8 mos.	Ended at end of 3 mos. No change.	Family history not known. No sign of tuberculosis or syphilis.			Back. Few lesions on arms and legs.	Yes	Yes	No	No	Yes	Yes	Yes	Yes	No	Infant was a monstrosity
Majocchi.....	P. D.	4	22	M.		Italian	1898	4 yrs.		None	Nons	Good	Symmetrical on legs and feet. Few lesions on thighs, forearms, and trunk.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	
Majocchi.....		5	25	M.		Italian	1898	Few mos.		None	Slight pruritus.	Good	Symmetrical on legs.	Yes	Yes	Yes		Yes	Yes				
Majocchi.....	V. A.	6	23	M.		Italian	1904	8 mos.		Nons	Slight pain in knees.	Good	Symmetrical on legs. Few lesions on thighs and forearms.	Yes	Yes			Yes	Yes	Yes	Yes		No improvement under strong Hg. treatment.
Majocchi.....	G. M.	7	85	F.	Maker of matches	Italian	1904	2 mos.	7 months	None	Severe rheumatic pains.	Fair	Symmetrical on legs and feet. Few lesions on arms and trunk.	Yes	Yes			Yes	Yes				Eruption disappeared. Mud baths were given. Iodide of potash and other drugs had been given. Lesions developed more rapidly when stimulated.
Majocchi.....	A. N.	8	20	M.	Printer	Italian	1912		4 months	Nons			Symmetrical on legs and thighs. Few lesions on forearms.										Incomplete report.
Majocchi.....	D. B.	9	18	M.	Musician	Italian	1912		ear	None			Legs, thighs and buttocks.										Incomplete report. Mud baths used. Eruption disappeared without leaving a trace.
Majocchi.....	N. N.	10	82	M.	Soldier	Italian	1912		Active at end of 1 months.	Nons			Symmetrical on lower limbs.					Yes					Incomplete report.
Majocchi.....	M. N.	11	32	F.	Laundress	Italian	1912	8 mos.	Under observation 1 day only.	None			Symmetrical on feet, legs and thighs. Few lesions on forearms.					Yes					Incomplete report.
Majocchi.....	E. M.	12		F.		Italian	1912	6 mos.	10 months	Sister died of possible tuberculous peritonitis.			Feet, legs and thighs. Few lesions on forearms.	Yes	Yes				Yes	Yes			Incomplete report. Disease was in full activity at last observation.
Majocchi.....	G. L.	13	18	F.	Domestic	Italian	1912	6 mos.		Wassermann and von Pirquet negative.	Pain in knees and legs.	Good	Symmetrical on lower limbs.	Yes	Yes				Yes	Yes			
Arndt.....		14	50	M.		German	1907	6 yrs.			Nons	Neurasthenic	Symmetrical on legs. One lesion on right buttock.	Yes	Yes	No	Yes		Yes				
Vignolo-Lutati	M. G.	15	11	M.		Italian	1908	2 mos.	Under observation months. No change.	Father and mother died of pulmonary tuberculosis.	None	Good	Symmetrical on legs and buttocks.	Yes	Yes	Yes	No	No	Yes				
Vignolo-Lutati	L. F.	16	24	M.	Tailor	Italian	1912			Brother died of tuberculous meningitis. Wassermann negative.	Pain in knees.	Poor	Symmetrical on feet, legs, thighs, and buttocks.		Yes	Yes	Yes	Yes	Yes			Yes	
Halzer and Galup.....	A. G.	17	17	F.	Dress-maker	French	1908	2 mos.		None	None	Poor	Legs and thighs.	No	Yes	Yes			Yes			In few places.	
Farrari.....	S. A.	18	40	M.	Clerk	Italian	1908			Nons	Pain in knees and calves.	Good	Symmetrical on arms, legs, flanks, abdomen, and buttocks.	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Brandweiner.....	F. H.	19	16	M.	Type-setter	German	1906	2 mos.	16 months	None	Slight pain in knees and wrists.	Good		No	Yes	No	Yes	No	Yes	Yes			Eruption disappeared without leaving a trace.
Brandweiner.....	W. A.	20	20	F.		German	1906	2 mos.	1 month	Syphilitic. Not tuberculous.	Pain in articulations.	Poor	Legs and thighs. Few under breasts.		Yes		Yes		Yes		Yes		Syphilitic eruption disappeared promptly under mercury. Purpuric lesions were fading when last seen.
Brandweiner.....	S. J.	21	19	M.	Clerk	German	1906	2 mos.		Scrofulous. One brother died of meningitis.	Pruritic. Slight muscular pain.	Fair	Legs, thighs, and forearms.		Yes	No	Yes	No	Yes		Yes		
Brandweiner.....	F. W.	22	14	M.	Schoolboy	German	1910 1912	3 weeks	2 months	Von Pirquet positive.	None	Good	Legs and arms. Few lesions on neck and in axilla. One lesion on mucous membrane of left cheek.	Yes	Yes		Yes	No					Tuberculin caused lesions to become more pronounced. Scratching produced new lesions. After 2 months eruption disappeared.
Brandweiner.....	Sp.	23	18	M.	Student	German	1912	3 weeks	10 months	Wassermann and von Pirquet negative.	Nons	Good	Arms, trunk, axilla, and thighs.		Yes		Yes	No	Yes		Yes		Eruption entirely disappeared. Irritation of lesions or of normal skin produced new spots. This could not be done after the disease was cured.
Kren.....		24	30	M.	Waiter	German	1907	5 yrs.					Extremities	Yes		Yes		Yes	Yes				Very incomplete report.
Sacha.....		25	18	M.		German	1910	2 yrs.			Articular pain.		Lower extremities.		Yes	Yes			?				Very incomplete report of a doubtful case.
Radaelli.....	G. V.	26	19	M.	Butcher	Italian	1911	6 mos.	Lasted 2 months, then gradually disappeared.	Wassermann negative. Von Pirquet positive.	None	Good	Legs and thighs.	Yes	Yes	Yes	Yes		Yes				Generalized telangiectasia on extremities in addition to other eruption. Patient seen 4 years later; no recurrence.
Omola.....	G. A.	27	40	M.		Italian	1911	8 mos.	Under observation for long period.	Nons	Pruritus. Dermography.	Fair	Feet, legs, thighs, gluteal and lumbar regions. Few lesions on forearms and hands.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Network of capillaries on lower limbs in addition to other eruption. Disease remained the same throughout period of observation. Frequent remissions and exacerbations. Artificial stains caused lesions. Suction cup failed to produce them.
Omola.....		28	Adult	M.		Italian	1911						Lower limbs, gluteal region, and arms.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes		Incomplete report. Diffuse capillary network over affected parts.
Verrotti.....	N. E.	29	Adult	F.	Domestic	Italian	1911	2 mos.		Nons	Slight pruritus and articular pains.	Good	Symmetrical on arms, forearms, and legs.	Yes	Yes	Yes	Yes	Yes	Yes	Yes			
Lindenhelm.....	J. A.	30	39	M.	Printer	German	1912	15 yrs.		None	None	Very nervous.	Legs, thighs, and gluteal region.		Yes	No	Yes	Yes	Yes	Yes		Yes	Slight ichthyosis in various locations. Some signs of lead poisoning.
Fasini.....	O. O.	31	18	M.	Carpenter	Italian	1913	2 mos.	2 months	Wassermann and von Pirquet negative.	None	Good	Legs and thighs.	Yes	Yes		Yes		Yes	Yes		No	Eruption disappeared, leaving pigmentation. Inoculations negative. Artificial irritation and stasis negative.
Nohl.....		32	25	M.		German	1913		Several months	Wassermann positive.	Nons				Yes		Yes		Yes		Yes		Incomplete report. Fading lesions replaced by new ones, so that eruption remained about the same.
Nohl.....		33	26	M.		German	1913	2 yrs.		Wassermann negative. No tuberculosis.			Legs, thighs, abdomen, and forearms. Few lesions on soles of feet.				Yes	No	Yes				Incomplete report.
Truffi.....	P. G.	34	32	M.	Farmer	Italian	1914	2 mos.	Nearly well in 6 months.	Wassermann and von Pirquet negative.	Sense of weight in lower limbs. Dermography.	Good	Legs, thighs, abdomen, and forearms. Legs swollen.	Yes	Yes	Yes	Yes	Yes	Yes	Yes		No	
Ambroini.....	G. G.	35	18	M.	Carpenter	Italian	1913	2 mos.	3 months	Wassermann negative. Von Pirquet negative.	None	Good	Feet and legs. Symmetrical. Few lesions on thighs.	Yes	Yes	Yes	Yes	No	Yes	Yes	No	No	Eruption disappeared without leaving a trace.
Balina.....		36				Spanish?	1912			Syphilitic antecedents. No tuberculosis.	None?	Stomach and intestinal trouble.	Feet and legs?	Yes?	Yes?	Yes?	Yes?	Yes?	Yes?	Yes?	Yes?	No?	Original article not obtained.
Balina.....		37				Spanish?	1912			Wassermann negative. No tuberculosis.	Nons?	Stomach and intestinal trouble.	Feet and legs?	Yes?	Yes?	Yes?	Yes?	Yes?	Yes?	Yes?	Yes?	No?	Original article not obtained.
Mac Kee.....	P. R.	38	22	M.	Waiter	Greek	1915	8 mos.	Active lesions for one year.	Wassermann negative and von Pirquet positive.	Pruritus and pain in legs.	Good. Neurasthenic.	Feet and legs. Symmetrical.	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes	Eruption disappeared, leaving pigmentation and atrophy.

ON LEUKÆMIA OF THE SKIN. R. BERNHARDT, p. 17.

This is a complete account of 7 cases seen by the author in various stages of the disease. He emphasizes the identity of the pathological findings in all types, regardless of clinical polymorphism. Clinically, he distinguishes a papillomatous form, with minute growths on the erythematous skin, giving it a shagreen appearance. Greenish-gray islands may be formed by the grouping of such lesions, and larger papillomatous tumors may develop. Erythrodermia is the usual background of this variety. The papillomata do not differ histologically from the usual leukæmic findings in the skin in any essential particular. The other clinical types are often confused with pityriasis rubra (Hebræ) and with psoriasis. Eosinophilia in the erythrodermatous skin shows no relation to that in the blood. It is more marked in pseudoleukæmia than in leukæmia, although erythrodermia is more common in the latter. Mycosis fungoides should be regarded as an entirely separate condition, in no way allied with leukæmia, regardless of the associated blood picture.

THE SERUM DIAGNOSIS OF SYPHILIS WITH ACTIVE SERUM. N. A. TSCHERNOGUBOW, p. 74.

The writer believes the active serum technique fully as sensitive in frank manifestations as the original Wassermann, and more sensitive in primary, latent and treated syphilis. A special water bath and other details of the apparatus and technique are described.

ON NERVOUS SYMPTOMS IN EARLY SYPHILIS. O. LEOPOLD, p. 101.

This study is based on 67 cases, including 16 primary lesions. Complete neurological examinations were made, and unusually careful investigation of the pupillary and reflex disturbances, in addition to the puncture findings. Eye and ear were not examined. Among the notable findings were the following:

1. A case of secondary syphilis, age 72, in whom all reflexes except the cremaster were lost, but returned under treatment. Fluid positive.
2. Thirteen cases, including the above, showed unequal pupils.
3. Two more cases presented a loss of reflexes, one with a normal fluid on two punctures. This latter case was uninfluenced by treatment, and is regarded by Leopold as possibly one of congenital absence of reflexes.
4. Nine cases showed a positive Babinski, with all the fluids positive. Oppenheim positive in 13 cases, Romberg in 9. In only 6 of the 67 cases was the Wassermann positive in the spinal fluid.

The writer concludes from his observations that the extent of central nervous system involvement in early syphilis keeps pace with the severity of the cutaneous manifestations. He found no evidence of an inverse relation. The general symptomatic picture is that of neurasthenia. All but three showed marked exaggeration of the reflexes. This objective finding combined with headache, weakness, insomnia and hyperirritability, is sufficiently striking in his opinion to justify Kreh's term, "acute syphilitic neurasthenia." In Leopold's cases, syphilophobia could be dismissed as a causative factor in this neurasthenia. A review of Steiner's work on central nervous syphilis in rabbits, with the finding of inflammatory changes and plasma cell and lymphocytic infiltrations most marked in the caudal portions of the cord, suggests to Leopold a possible pathological basis for the clinical evidences in man. The various spinal fluid findings are recognized as varying independently of each other. The questions as to the ætiological significance of special strains of *Spirochæta pallida*, and as to the relation of early to late central nervous involvement, are left *sub judice*. Emphasis is laid on the prognostic importance of a careful study of the condition of the nervous system in early lues.

THE ESSENTIALS OF A RATIONAL TREATMENT OF CUTANEOUS TUBERCULOSIS WITH ESPECIAL REFERENCE TO LECUTYL.
A. STRAUSS and F. MIEDREICH, p. 149.

Lecutyl, the therapeutic agent which forms the basis of this discussion, is copper-lecithin, and the therapeutic claims made rest on what the authors regard as an almost specific effect of copper on the tubercle bacillus. It is therefore, in their opinion, a true chemotherapy. Its best field of application is local and external, though no method is given in this article, apparently. Used in this way, it has a selective action on tuberculous infiltrates as well as on the bacilli. A typical local inflammatory reaction develops within the first three days after an application of lecutyl salve, which the writers believe is of diagnostic value. Epitheliomatous tissue and parasitic dermatoses may react, however. The method is painful, and sensitive patients may require morphine.

The internal use of copper in the treatment of tuberculosis is discussed. Lecutyl is unsatisfactory for intramuscular and subcutaneous use on account of the necrosis and infiltrates which it produces, but the authors believe the difficulties are technical and can be overcome. Diamido-glycocoll-copper is suggested for intravenous injection, a solution containing 0.01 (gm.%) copper per cubic centimetre being used (called Solution "H"). The adult dose is a half to five cubic centimetres, once or twice a week. The dose is increased $\frac{1}{2}$ cc. weekly, and injected slowly. In general, 1 mg. copper per kilo of body weight is a safe upper limit. Lecutyl may be used by mouth or in the form of injections for a slow but beneficial effect. The comparative inefficiency of copper via the blood stream is attributed to the poor vascularization of tuberculous foci. General hygiene is conceded to be an indispensable adjunct to all treatment.

The tone of the discussion as a whole is warmly enthusiastic rather than critical. The authors unhesitatingly commend lecutyl as a valuable addition to the therapy of cutaneous tuberculosis, and a number of excellent photographs of cases before and after treatment seem to lend weight to their claims.

SKIN CULTURES ON SOLID NUTRIENT MEDIA. K. KREIBICH, p. 168.

Kreibich employed various modifications of a peptone-blood-agar medium. By cleaning the skin with benzine and tincture of iodine before removal, he was able to inhabit contaminating organisms for 3, 4, 6 and even more days. The transplants were taken at random from individuals under forty years of age. Experience showed that the medium must have a dry, firm surface, free from water of condensation, to secure satisfactory growth. It was conclusively demonstrated that the medium was essential and that growth did not occur from remnants of the cutis.

The changes observed leave no question, in the opinion of the author, that a new growth of epidermis, and possibly also cutis, occurs. It is not simply a migration or a shifting of the original cells. New rete pegs form, and pictures resembling hyper- and para-keratosis develop. The old epidermis is cast off. The changes suggest those in a healing wound. Actual growth of the cutis in these cultures is still open to doubt, but seem probable. Mast cells resume the large round form, and embryonic types of connective tissue cells appear.

ON THE RELATION OF CUTANEOUS MANIFESTATIONS FOLLOWING THE USE OF A TUBERCULIN OINTMENT (MORO) TO LICHEN SCROFULOSORUM. A. TSCHIRN-KARIAN, p. 185.

From observations based on the effect of rubbing a tuberculin-containing salve into the skins of tuberculous patients, the author concludes that while tuberculin may be instrumental in lighting up a latent lichen scrofulosorum, neither the clinical nor the pathological evidence justifies the belief that lichen scrofulosorum is a tuberculo-toxic dermatosis.

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ON A NON-SPECIFIC LYTIC REACTION IN THE SERUM OF CERTAIN SYPHILITICS. BÖRNSTEIN, NAST and NICKAU, p. 240.

The authors' conclusions are stated as follows: In the serum of certain syphilitics there occurs a non-specific or at least only very slightly specific reaction upon a number of organs, including normal and pathological thyroid, thymus, placenta, carcinoma and sarcoma. In a number of cases in which, under the influence of treatment, the Wassermann reaction had become negative, the reaction in question remained positive. Additional observations are appended as follows:

1. After a luetin injection (intradermal) a positive reaction developed. Especially interesting in a supposedly aborted case was the occurrence, after treatment, of both a positive luetin reaction and a positive Abderhalden.

2. The authors found that the reaction could be made more specific by using larger amounts of serum.

ON THE HISTOLOGY OF GRANULOMA ANNULARE (RADCLIFFE CROCKER). E. KLAUSNER, p. 247.

This is a case report with pathological findings, essentially in accord with previously reported cases.

ON THE MORPHOLOGY AND HISTOLOGY OF TRUE RUPIOID PSORIASIS. K. VIGNOLO-LUTATI, p. 255.

This is a report of a case in which the rupioid masses were exclusively squamous and contained no trace of cellular or serous exudate. The process begins about the hair follicle mouth and the layers or lamellæ are inclined to the axis of the hair follicle as the barbs of a feather are inclined to the quill.

ON THE HISTOLOGY OF LEPRO. W. KEDROWSKI, p. 267.

A case report from Moscow. Nothing especially new.

FOLLICULIS DEVELOPING AFTER TRAUMA, WITH THE PICTURE OF LICHEN RUBER PLANUS. M. KAUFMANN-WOLF, p. 285.

This report describes a case in which, following the application of a moist electrode to the wrist papules typical of lichen ruber planus developed at the site of application, in the course of two weeks. Although clinically the eruption was lichen planus, histopathological examination by Arndt showed the condition to be a papulo-necrotic tubercule. Two similar cases have been reported.

ON INFLAMMATORY CHANGES IN EPITHELIUM AND THE RELATION OF THESE CHANGES TO MALIGNANT EPITHELIOMA. J. McDONAGH, p. 289.

The substance of the writer's contention is that the pseudo-parasites in epitheliomata are not cellular but nuclear changes, and that similar figures may be found in chronic inflammation; making the margin between inflammation and neoplasm a narrow one.

CONTRIBUTION TO THE PATHOGENESIS OF TUBERCULIDE (SENSITIZATION OF THE SKIN BY BACTERIAL PRODUCTS). S. GROSS and R. VOLK, p. 301.

By animal experiments the writers found that the injection of certain bacterial toxines into the skin caused a marked sensitization of the skin to light rays,

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especially the violet and ultra-violet rays. This was especially conspicuous after the injection of killed tubercle bacilli and also after colon bacilli. Animals with tuberculosis also exhibited an increased sensitiveness on the part of the skin to actinic light. The authors suggest a possible ætiological importance for a variety of dermatoses whose sites of predilection are on uncovered portions of the body.

(*Ibidem*, June, 1914, cxx, No. 2.)

ON RENAL SECRETORY INSUFFICIENCY IN ORDINARY AND PARASITIC FORMS OF ECZEMA. BERNHARDT and RYGIER, p. 309.

This investigation is based on the phenolsulphonthalein test (Rowntree and Gerachty method). The authors found deficiencies in elimination in 55% of 11 cases of true eczema, and in only 33% of 6 cases of "parasitic" or seborrhœic eczema. While not prepared to draw final conclusions as yet, they regard the results as suggestive of the importance of renal function, both in the obscure constitutional background of eczema and in its therapy.

ON THE FATE OF INSOLUBLE MEDICINAL AGENTS INJECTED INTRAMUSCULARLY AND SUBCUTANEOUSLY, ESPECIALLY SALVARSAN. A. TAKAHASHI, p. 31.

The writer's conclusions, based on extended experimental work, almost entirely with salvarsan, are given as follows:

1. Salvarsan produces at the site of injection an extensive necrosis involving all tissues. In about 14 days acute inflammatory changes surround the affected region by a leucocytic wall. Chronic inflammatory granulation tissue then replaces the mass, from without inward. This regeneration requires about 350 days.

2. The salvarsan disposal occupies three stages. During the development of the necrosis a portion is taken up by the lymphatics. In the second stage, the salvarsan remaining, collects in coarse, opaque, difficultly soluble globules, which, in the event of abscess formation, are discharged with the pus. In the final stage, the remaining granules of salvarsan are taken up and dissolved by giant cells. The complete absorption of the injected salvarsan occupies in a man at least 400 days.

ON A CASE OF PECULIAR LOCALIZED SYRINGOMA IN COMBINATION WITH OTHER DEVELOPMENTAL ANOMALIES. M. WINKLER, p. 343.

The syringocystomata were situated on the penis and scrotum, appearing clinically as yellow nodules, from pinhead to cherry in size. The histological picture established the diagnosis. The association of a striking under-development of the genitalia and rudimentary secondary sexual characters with the condition is the feature of special interest. The author interprets the combination as additional evidence for the nævoid character of the syringomata.

ON THE HYPERKERATOTIC-VESICULAR EXANTHEM OF GONORRHOEA. BRSCHE and MICHAEL, p. 348.

This discussion is based on two cases. Blood cultures and studies of the fluid from vesicles were inconclusive, but the authors believe the recurrence of the eruption with each new exacerbation of the gonorrhœa to be good clinical evidence of the relation. Their summary is quoted as follows:

1. In the course of gonorrhœal urethritis with complications, an exanthem appears, which, after a short vesicular stage, develops persistent horny excrescences, surrounded by the remains of the earlier vesicles. The sites of predilec-

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tion are the dorsum and soles of the feet, the backs of the hands and the flexor surfaces. The nail beds may be involved. In rare cases the eruption may be more extensive.

2. The recurrence of the eruption with exacerbations or new gonorrhœal infections seems to establish the ætiological relation in spite of the scanty bacteriological findings.

3. The exanthem is most often seen in conjunction with arthritic involvement, and similarly may run a chronic course with unfavorable prognosis.

4. Microscopically, the condition is an acute inflammation, localized to the upper layers of the corium. The dried exudate, combined with lamellæ and layers of parakeratotic epidermis, gives rise to the horny excrescences.

CONTRIBUTION TO THE STUDY OF SCROFULOID ADENOPATHIES IN HEREDO-SYPHILITIC INDIVIDUALS. K. VIGNOLO-LUTATI, p. 376.

The writer calls attention to a type of cervical glandular enlargement often accompanied by breaking down of the glands and scarring, associated with heredo-syphilis, which has been thought to be an evidence of coëxistent tuberculosis. His observations tend to show that hereditary syphilis alone may be responsible for the picture, as evidenced by its prompt response to specific treatment and the total lack of evidence for tuberculosis.

ON A PECULIAR FORM OF CUTANEOUS TUBERCULOSIS DUE TO THE TYPUS GALLINACEUS, ETC. B. LIPSCHUTZ, p. 387.

The writer's conclusions are as follows:

1. Various types of tubercle bacillus (human, bovine and avian tubercle bacilli) may give rise to clinically distinguishable forms of cutaneous tuberculosis in man.

2. Direct infection of man by animals is possible, so that prophylactic measures should include both the latter types of infection.

3. For the overwhelming majority of cutaneous tuberculous infections which have been studied bacteriologically, the human type has been responsible.

4. The bovine type appears usually in tuberculosis verrucosa cutis (Riehl-Paltauf), and this condition is therefore to be regarded as a true bovine inoculation tuberculosis. Such infections remain localized and glandular involvement is extremely rare. No recorded cases of generalization from these local foci are known.

5. Verruca necrogenica, distinguished by the writer from tuberculosis verrucosa cutis, is usually due to the human type. Lupus vulgaris in only a small percentage of cases is due to the bovine bacillus, older authors to the contrary notwithstanding.

6. The ætiological significance of the avian type must not be underestimated. As a clue to its presence, a very low degree of virulence of the diseased tissue, when injected into guinea pigs, should arouse suspicion and lead to tests on fowls.

7. The following criteria are significant in the recognition of avian cutaneous tuberculosis in man: a clinically and microscopically atypical picture, with the finding of extraordinarily large numbers of bacilli, almost exclusively intracellular in distribution.

A bibliography of 68 titles is appended.

THE CUTANEOUS REACTION IN SYPHILIS WITH SPECIAL REFERENCE TO THE "PALLIDIN" REACTION. E. KLAUSNER, p. 444.

The writer precedes the discussion of his own results by a useful review of the principal advances made in the evolution of a cutaneous test for syphilis. The

agent employed by the author consisted of an alkaline saline extract of lung tissue from a case of pneumonia alba, prepared after Fischer's method (equal parts saline and tissue by weight, ground up with glass, centrifuged, heated to 60 degrees F. for 25 minutes, and phenol added to make ½%). The inoculations were made by scarification just deep enough to draw blood. The author's conclusions are enumerated as follows:

1. Other preparations from tissue rich in *Spirochaeta pallida*, similar to the above, give cutaneous reactions in syphilis.

2. The local reaction consists of an inflammatory infiltration, reaching its height in 36 to 48 hours after inoculation. Negative cases show no reaction.

3. The pallidin reaction is specific for syphilis, and especially for tertiary and late hereditary lues.

4. It is often present in precocious, malignant syphilis with positive Wassermann and absent with a negative Wassermann.

5. The reaction is positive with visceral gummata.

6. It is more often positive in parenchymatous keratitis than the Wassermann.

7. Gummatus periostitis, and cases with cachectic skins often show negative results.

8. In tertiary and late hereditary lues, pallidin gives more positives than the Wassermann. It has therefore a high diagnostic value.

9. Treatment has little effect on the reaction, although it disappears at times under intensive therapy.

10. A pallidin reaction may call forth a positive "allergic serum reaction" (Ascoli) where there was a negative before.

11. The reaction is interpreted as an anaphylactic phenomenon.

TREATMENT OF ROENTGEN DERMATITIS. (A CASE OF ROENTGEN ULCER TREATED BY PFANNENSTILL'S METHOD.) S. BOGROW, p. 523.

Pfannenstill's method, it may be recalled, consists in securing the action of supposedly nascent iodine upon affected tissues by the internal administration of large doses of sodium iodide, and the external application, by wet dressings, of an oxidizing agent, such as acidified hydrogen peroxide. Six doses of ½ gm. each of the iodide are given daily. The method is familiar in the treatment of lupus vulgaris on the mucous membranes, etc. An X-ray ulcer which had resisted every procedure for five months healed rapidly by this method, relapsed when it was suspended, and finally healed when it was resumed. The method impressed the author as free from unpleasant complications and worthy of further trial in chronic ulcers of non-infectious origin as well as in other types.

SYMMETRICAL LIPOMATOSIS. A. BUSCHKE and MATTHISSON, p. 537.

This article, based on two cases associated with psoriasis and arthritis, is a comprehensive and valuable abstract of current opinion on the condition in question. The writers incline toward "rheumatic" origin for their own cases, but no definite conclusions are reached. There is a bibliography of 121 titles.

ON THE "TOPOGRAPHY" OF SALVARSAN AND NEOSALVARSAN. A. STÜHMER, p. 589.

This is an effort to determine, by a color reaction, the localization of intravenously injected salvarsan in the tissues. The method employs a reagent containing paradimethylamidobenzaldehyde, in an acidified saturated solution of corrosive sublimate. The experimental work was done on rabbits, employing acid and alkaline, old salvarsan and neosalvarsan. The conclusions are stated as follows:

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1. Of the three preparations studied, the distribution of neosalvarsan through the body as a whole was the most uniform. Alkaline old salvarsan was a close second. Acid old salvarsan was specially abundant in the lung tissue, in which it was held back as in a filter. This was also true of concentrated alkaline old salvarsan (1-25). Concentrated neosalvarsan (1-1) was evenly distributed.

2. Lung, liver and spleen, after intravenous injection, very quickly showed equal concentrations. The active liberation of small amounts of salvarsan to the blood stream from these storage depots lasts 3 days in the case of old salvarsan, and about 24 hours with neosalvarsan.

3. A large part of the salvarsan is eliminated unchanged through the kidneys and intestinal tract. The importance of the latter channel suggests the possibility of toxic manifestations from oxidation of the drug in the intestine during intestinal disturbances, and the resorption of poisonous products.

4. Repeated injections increase the capacity of the storage depots in the body.

5. The nervous system remains free of the drug, but with neosalvarsan there is a notable affinity for the meninges. This suggests a practical guide for its use in meningeal cases.

DERMATOLOGISCHE WOCHENSCHRIFT.

(May 15, 1915, ix, No. 20.)

Abstracted by MAX SCHEER, M.D.

SUBSTITUTES FOR WHEAT STARCH (AMYLUM) IN DERMATOLOGY.

P. G. UXXA, p. 473.

Both the scarcity and high price of wheat starch in Germany to-day have induced the author to search for a substitute which should combine cheapness with efficacy. This was found both in magnesium carbonate and in infusorial (silicious) earth; in fact, these remedies absorb from four to eight times as much water and fat from the skin as does amylum. A percentage of from 5 to 10% of these remedies in salves or pastes is equivalent in its action to 25% of amylum. Infusorial earth is adapted for use in pastes only; in powder form the earthy particles make the skin feel uncomfortable. Magnesium carbonate can be used both in pastes and powders and is very useful in moist skins. To the above substitutes for amylum can also be added kalin and talc; the former is useful in skins with excessive fatty secretion.

CONTRIBUTION TO THE HISTOPATHOLOGY OF THE ANIMAL SKIN.

LOUIS MERLAN, p. 479.

Eczema. Case 1. A St. Bernard dog, who has had a universal eczema for two years. This began with the appearance of yellow crusts between the hairs, especially on the back; the affection gradually spread until the skin presented numerous moist areas, the size of the palm of the hand. These gradually subsided, leaving areas denuded of hairs.

Preparation 1a was made from a red spot between the hairs.

Microscopical findings. No change in the horny layer. There is moderate acanthosis, involving also the outer thirds of the hair follicles. The vessels of the cutis are dilated and filled with blood and correspond to the red points seen microscopically on the skin. The derma shows a very slight infiltration, with plasma and mast cells.

Preparation 1b was made from a markedly scaly area.

Microscopical findings. In some parts the horny layer is normal, in others

there is parakeratosis, and in still others crust formation. There is moderate acanthosis, affecting also the outer part of the hair follicles. In some areas there is spongiosis. The granular layer is absent. There is a mast-cell infiltration around the vessels.

Preparation 1c. This came from an area, size of a man's palm, between the base of the tail and the back. The skin in this region was darker than normal and showed very few hairs; there was slight scaling, but no moisture.

Microscopical findings. In most areas the horny layer was normal. The acanthosis had retrogressed considerably though irregularly; in the hair follicles this had progressed beyond the normal and led to an atrophy, with resulting hair loss.

It will be seen that the microscopical findings described above are similar to those found in human eczema.

(*To be concluded.*)

(*Ibidem*, May 22, 1915, ix, No. 21.)

THE INFLUENCE OF LIGHT ON LEUCODERMA PSORIATICUM. A BUSCHKE, p. 489.

In a former communication the author called attention to the fact that leucoderma syphiliticum, though healing spontaneously after a time, was not improved by the quartz lamp; on the other hand, ordinary vitiligo, though incurable, could be temporarily improved, the repigmentation often lasting for months. In leucoderma syphiliticum the lesion is in all probability caused by a peripheral toxic injury to the epidermal cells, so that the latter are unable to produce pigment. The origin of the leucoderma from preëxisting roseola spots speaks in favor of the local nature of the process. In ordinary vitiligo, which probably has its origin in the nervous system, the epidermal cells are not damaged, but nerve stimulation is lacking; this can be replaced by the light stimulation, and pigmentation, though temporary, can be produced.

Three cases of leucoderma psoriaticum (i.e., those unusual cases of psoriasis in which healing of the plaques is followed by leucoderma, and in which chrysarobin has been used a long time previously or not at all), were subjected to the quartz lamp. The lesions remained unchanged, though the surrounding skin was deeply pigmented from the irritation of the light.

Leucoderma psoriaticum resembles the syphilitic leucoderma in that healing is spontaneous and the lesions are uninfluenced by the quartz lamp. This suggests that the former has also a toxic origin (in contradistinction to a neurogenous), the toxine probably resulting from some error of metabolism.

CONTRIBUTION TO THE HISTOPATHOLOGY OF THE ANIMAL SKIN.

LOUIS MERIAX, p. 493. (*Continued.*)

4. Eczema.

Case 2. Granulating ("granulierendes Eczem"). Eczema from the tibial region of a bulldog.

Microscopical findings. Horny and prickle cell layers are normal, but in the deeper portions of the latter are numerous deeply stained, round pigment cells with coarse, round, black granules distributed around the periphery of the cells with a lighter staining nucleus. In several places these cells are seen to penetrate into the cutis, where they are most numerous around the coil glands. Among the pigment cells in this situation are also many mast cells and intermediate forms between the latter and spindle cells. The appearances in some areas suggest also a transformation of mast cells into pigment cells.

Other sections showed occasional absence of the horny layer, or parakeratosis and acanthosis, and one portion showed a small ulcer.

Case 3. Eczema and folliculitis in a dog.

The sections were made from the skin of the back of a fox terrier. Microscopically, these pustules were pierced by hairs, there was partial hair loss and between the hairs the skin was oedematous and covered with yellow crusts.

Microscopical findings. In the epidermis and upper part of the cutis are numerous empty hair follicles, containing leucocytes in their interior, lying close to the wall of the follicle. The prickle cell layer of the follicle is acanthotic.

The hair follicles in the deeper parts of the skin are normal. In the upper portion of the cutis are numerous dilated blood vessels surrounded by an infiltrate of leucocytes, mast cells and a few plasma cells. In those portions of the prickle cell layer lying beneath the crusts there is marked spongiosis.

(*Ibidem*, May 29, 1915, lx, No. 22.)

CONCERNING THE INFECTIOUSNESS OF THE BLOOD IN LATENT ACQUIRED SYPHILIS WITH NEGATIVE WASSERMANN REACTION. RICHARD FRÜHWALD, p. 513.

A patient who had received, for primary lues, four injections of neosalvarsan, .75 gm. each, and twenty injections of mercury cyanide, came under observation for a gonorrhœa six months after the end of treatment for her lues. At this time there were no clinical manifestations of lues, but the Wassermann reaction was positive; this positive reaction changed to negative ten days later, and at this time 1 cc. of blood was injected into the testicle of a rabbit. Eight weeks after injection there was a slight, ill defined infiltration in the upper part of the testicle, which, on puncture, showed spirochætæ. About four weeks after the blood (containing spirochætæ) was withdrawn, the patient showed a small papule containing numerous spirochætæ, on the left labium minus.

This case shows that the blood may contain spirochætæ at a time when the Wassermann reaction is negative.

CONTRIBUTION TO THE HISTOPATHOLOGY OF THE ANIMAL SKIN.

LOUIS MERIAN, p. 517. (*Continued*.)

5. Chronic dermatitis on all four legs (tibial region) of a horse.

Microscopical findings. The horny layer is about one hundred times the normal thickness and shows leucocytes and a serous infiltration between the lamellæ, but no cocci. There is very marked acanthosis and spongiosis. The vessels of the papillæ are dilated and filled with blood. In the cutis are a few spindle and mast cells. The microscopical picture is analogous to that of cutaneous horns in the human being.

6. Dermatitis verrucosa of the horse.

The specimen shows crusts, a marked parakeratosis, numerous masses of cocci, and acanthosis. In some areas there is a loss of the horny and part of prickle cell layer, forming superficial ulcerations. In the cutis, here and there, are numbers of plasma and spindle cells as well as transition forms between the two.

(*Ibidem*, June 5, 1915, lx, No. 23.)

A FOREIGN-BODY TUMOR IN A MILKER DUE TO HAIRS FROM A COW. PAUL LAUENER, p. 529.

The patient, a milker, stated that a similar condition to the present one had existed four years ago and was cured surgically. His present affection was of two years' duration and was preceded by fissures in the skin. The first phalanx of the left middle finger was considerably thickened and spindle shaped, presenting a tumor-like appearance. At the base and near the ulnar side was the

opening of a fistulous tract, through which many hairs were extruded. A similar condition was present in the first phalanx of the right ring finger. The growths, which were adherent to the tendon and nerve sheaths, were removed surgically.

Microscopical examination revealed a true granulation tissue tumor, a plasmonoma. The entire cutis and adjoining part of the subcutaneous connective tissue was densely infiltrated with plasma cells; in addition, there were larger and smaller accumulations of leucocytes and lymphocytes and a few mast cells. Here and there in the plasma cell infiltration were spindle cells, connective tissue fibres and rolled-up lumps of elastic fibres. The blood vessels were increased in number and some showed endothelial proliferation. The most striking feature, however, was the presence of numerous cow hairs, cut in all sorts of directions in the infiltrated areas as well as in the periphery. In some places hairs could be seen in the epidermis, boring their way into the cutis. The hairs were for the most part normal in appearance, but many were in all stages of disintegration. Most of the hairs were surrounded by giant cells, as well as plasma cells and leucocytes. The fistulous tract was for the most part lined by normal epithelium and contained many hairs in its blind extremity.

(To be concluded.)

EXTRAGENITAL CHANCROID INFECTION. E. KLAUSNER, p. 537.

The author cites three cases of indirect infection with *ulcus molle*.

The first was a patient who had an ulcer on the dorsal surface of the terminal phalanx of the index finger, near the nail. Numerous typical streptobacilli were present. At the time there were no genital lesions, but she stated that a few weeks previously she had a soft sore near the caruncle, which she had treated herself and in this way the index finger, which was fissured, came in contact with the sore.

The second case was that of an officer with an ulcer on the left thigh, containing numerous Dühré bacilli. There were no sores or scars on the genitals. About two weeks previously, immediately after coming in contact with the genitals of a prostitute, he scratched an itching area on the left thigh exactly where the chancroid later developed.

The third case was a woman, 44 years old, an attendant in a public toilet. She stated that she had had no intercourse for 10 years. She had a pendulous abdomen and a marked intertrigo underneath. On this intertriginous skin were several partly confluent ulcers surrounded by many follicular infections. Numerous typical Dühré bacilli were present. On account of the discomfort caused by the intertrigo, she had moistened a handkerchief which she found in the toilet and applied it to the affected area; a few days later the above-described lesions appeared. The toilet was frequented by prostitutes, and there is no doubt in the author's mind that the infection in this case was caused by the infected handkerchief.

(*Ibidem*, June 12, 1915, ix, No. 24.)

PRECANCEROUS PROLIFERATIONS. АНТОН ТИЦЬ, p. 553.

The author reports a case (the histopathology of this case was previously reported in the *Dermat. Wechnschr.*, 1913, vii, p. 819), similar to that of Grisson and Delbanco, reported in No. 4 of this issue.

Clinically, there were, superimposed on nodular gummata of the lips, numerous benign papillary proliferations. The histological picture was that of a plasmonoma with a superimposed benign acanthoma. The gummata were greatly improved by antiluetic treatment and the papillomata were removed surgically. A few months later the patient returned with a typical carcinomatous ulcer on

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the upper lip, which rapidly spread and caused death in a few months. The glands were not involved. Unfortunately, the author could not obtain a section for microscopical examination; but he has no doubt that the carcinoma developed from the benign acanthoma; and he thinks that the irritation caused by the surgical interference may have been a factor in provoking malignancy. He suggests that the irritation of urine in Delbanco and Grisson's case may have acted in a similar way in converting what were originally benign papillomata into carcinomatous growths.

A FOREIGN-BODY TUMOR IN A MILKER DUE TO HAIRS FROM A COW. PAUL LAUENER, p. 556. (*Continued.*)

The enormous plasma cell infiltration was due, in the author's opinion, to both the foreign body and infection with pus organisms.

Examples of undoubted transformation of plasma cells into connective tissue cells were not found.

It could not be definitely determined whether the hairs present in the rete were entering from without or whether they were being extruded.

DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(June 17, 1915, xli, No. 25.)

Abstracted by CLARENCE ALLEN BAER, M.D.

THE SPREAD, FIGHT AGAINST AND TREATMENT OF SKIN AND GENITO-URINARY DISEASES AMONG ARMIES IN THE FIELD. W. SCHOLTZ, p. 728.

CONTRACTED STOMACH ON A SYPHILITIC BASIS. ERICH MUEHLMANN, p. 733.

History of a case and report of the literature.

(*Ibidem*, June 24, 1915, xli, No. 26.)

CONCERNING NOVIFORM. GEORGE SEEGALL, p. 770.

Noviform is a non-poisonous, yellow, odorless, tasteless astringent powder of very fine consistence. The author has used noviform in the treatment of herpes, phlegmon, furuncles, abscesses, wounds, eczema, with good results and without any absorption intoxications.

(*Ibidem*, July 29, 1915, xli, No. 31.)

DEATH FOLLOWING SALVARSAN. BERNARD FISCHER, p. 908.

The author states that we are now able to distinguish between deaths caused by salvarsan therapy and deaths from other causes following salvarsan. Deaths without necropsy are worthless for purposes of statistics. Salvarsan poisoning is not the same as arsenic poisoning. Encephalitis hæmorrhagica is rare following the use of salvarsan. Among the 6,000 necropsies performed since 1910, many occurred following salvarsan injections. In most of these, death was shown to be due to other causes than salvarsan, such as general tuberculosis, remains of placenta in uterus, anæmia, alcoholic intoxication and pneumonia.

(*To be continued.*)

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EXPERIENCE WITH THE COAGULATION REACTION IN SYPHILIS. MAX BRANDT, p. 915.

This is a report of 500 examinations made according to the new coagulation test and compared to Wassermann reactions. The coagulation test consists of the precipitation of fibrinogen by thrombin, in a calcium medium. The conclusions drawn are that the coagulation reaction agrees with the Wassermann reaction in many cases. In cases in which the Wassermann reaction and the coagulation reaction do not result in the same way, the clinical findings and history tend toward verifying the coagulation reaction. The coagulation reaction is equally as characteristic as the Wassermann reaction in confirming the changes produced in blood sera by syphilis.

LO SPERIMENTALE.

(March 15, 1915, lxi, No. 1.)

Abstracted by G. A. CARLUCCI, M.D.

STUDY OF A SERIES OF CASES OF LICHENOID TUBERCULIDES OF THE WILSON TYPE. P. L. BOSELLINI, p. 29.

The author reports and discusses a series of eight cases, classing them as another type of tuberculous skin affections. All the cases reported by the writer have tuberculosis of internal organs, viz., the lungs.

Following his researches and the actual knowledge of the tubercle bacillus, he draws the following conclusions: The tubercle bacillus that is found in some visceral focus may free itself, alive or dead, and by means of the blood stream lodge itself exclusively and preferably in some parts of the skin (dorsum of the hands) for a number of years.

This, while it tends to prove the fact of the bacillæmia or repeated and periodic migration of the tubercle bacillus from benign tuberculous foci, shows that the skin, or rather some parts of it, can offer a favorable soil for the deposit of the tubercle bacilli circulating in the blood, probably due to the skin being sensitized by other factors, for example, light.

The virus, fixed in the skin of the dorsum of the hands and the contiguous portions of the dorsum of the forearms, causes the appearance of an eruption of papular or papulonodular type, well circumscribed, about the size of a lentil, red, hemispherical, flat or umbilicated, sometimes polygonal, smooth and shiny or desquamating, and in the centre of the umbilication showing a scar. The development is very rapid, reaches its height in a few days, then resolution begins (by reabsorption and desquamation), which may take several weeks, according to the size of the nodule and not leaving the slightest scar. No subjective symptoms are present.

Anatomically, the lesion is made up of a necrotic focus more or less extensive and more or less deeply situated, depending on the intensity of the necrotic changes, around which is found an œdematous, congested connective tissue, in which lie many fixed polymorphous cells that constitute nearly exclusively the neoplasm.

The dropping down of the centre of the nodules corresponds to the formation of the necrotic focus, which shows itself to be compact and retracted in contrast to the above-described surrounding tissue. There is no solution of continuity or suppuration with these alterations.

Morphologically, the lesions resemble Wilson's lichen planus; anatomically, the lesions must be classed among the papulo-necrotic tuberculosis, from which they can be differentiated by the simplicity of the lesion.

From the pathogenetic viewpoint, they are an expression of a semi-immunization state, created by the visceral focus, to which can be attributed a bacteriolytic action, and of an anaphylactic state, due also to the infective visceral focus and more particularly to the dializable toxine or primitive tuberculine of the tubercle bacillus (Ostrowsky), there residing and operating. In the bacteriolytic action we have the liberation of the bacillary endotoxines of the virus, that reach the skin and remain there; to the anaphylactic preparation of the ground we have the formation of the necrotic inflammatory lesion due to the presence, in the anaphylactic area, of that extremely small quantity of dializable toxine, coming from the virus there lodged.

This tuberculous dermatosis, really produced by the tubercle bacillus, shows that it is not due to the bacillus taken in its entirety, but to one of its chemico-toxic components.

The dermatosis is of interest from the general viewpoint of tuberculosis, as it brings forth with extreme clearness and ease very complex phenomena, as for example those of immunization and anaphylaxis.

(*Ibidem*, April 30, 1915, lxi, No. 2.)

STUDIES ON THE POINTED CONDYLOMATA. P. FIORI, p. 221.

An extensive report of histological studies of pointed condylomata.

ACTAS DERMO-SIFILOGRAFICAS.

(April and May, 1914, vi, No. 4.)

Abstracted by G. A. CARLUCCI, M.D.

CONGENITAL SYPHILIS, LATE FORMS. E. A. SAINZ DE AJA, p. 193.

A report of a series of cases, the patients ranging in age from eight to fifty-three years. Most of the lesions were of the long bones. There was a distinct history of syphilis in the parents of the patients studied.

From his experience he states that, first, hereditary syphilis is extraordinarily frequent, and that it is not rare to see a so-called late or adult case of syphilis among them; second, the symptoms and lesions found in cases reported should be used to arrive at the diagnosis; and third, that grave errors in diagnosis and treatment have been made on account of not taking into consideration the frequency, history and character of congenital syphilis and its lesions.

SCARLATINAL ERYTHEMA OF MERCURIAL ORIGIN. J. SANZ DE GRADO, p. 225.

OPERATIVE INOCULATION OF A SYPHILITIC CHANCRE. E. A. SAINZ DE AJA, p. 236.

The writer reports two cases; in one, the chancre developed in the incision for the removal of a sebaceous cyst; the other appeared on the frænum, which had been cut on account of its being too short.

(*Ibidem*, Oct. and Nov., 1914, vi, No. 1.)

SYPHILIS OF THE NERVOUS SYSTEM (CORTICAL MENINGITIS), WITH SEVERE THERAPEUTIC MERCURIAL NEPHRITIS. E. A. SAINZ DE AJA, p. 1.

The writer reports a very interesting case and gives his conclusions as regards the use of neosalvarsan. He says that neosalvarsan, especially in small,

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repeated doses, can be used in many cases with good results where previously it was supposed to be contraindicated. For example, in syphilis of the nervous system, in infants with hereditary syphilis, also in cases of aortitis and aneurism with compensated heart lesions. He also has used it in cases with kidney lesions.

But, he concludes, neosalvarsan cannot be given indiscriminately to everyone, or by everyone, as every case must be thoroughly studied before it is administered.

SCLEROTIC AND PAPILLOMATOUS TUBERCULOSIS IN PLAQUES, OF DORSAL SURFACE OF TONGUE. J. DE AZUA, p. 16.

VEGETATING LUPUS OF THE HAND. A. P. REGIDOR, p. 20.

A report of a very chronic case of vegetating ulceration of the dorsum of the hand. After many experiments, positive inoculations were made in rabbits and the tubercle bacillus found. The author brings out the fact that the diagnosis is often difficult, especially the differentiation from epithelioma.

LICHEN PLANUS OF WILSON, WITH UNUSUAL RESISTANCE TO ARSENICAL TREATMENT. J. S. COVISA, p. 33.

A report of a clinical case of lichen planus with marked pruritus. The patient was a very neurotic woman, suffering from cephalagia, cardiac palpitation and pruritus, causing severe insomnia. She was subjected to several courses of treatment, with the following results: both Fowler's solution and sodium arsenate could not be given for any length of time on account of severe intolerance. Sodium cacodylate and neosalvarsan could be given, but apparently were ineffectual. The injection of the patient's own blood (hæmato-therapy) gave excellent results, but not lasting.

The writer is of the opinion that hæmato-therapy should be tried more often and with larger dosage of blood.

LUPUS TUBERCULOSIS IN PLAQUES RAPIDLY CURED WITH FINSEN PHOTO-THERAPY. E. A. SAINZ DE AJA, p. 40.

PAPILLOMA OF SCALP TREATED BY RADIUM. J. DE AZUA, p. 46.

SUPERINFECTION OF A TERTIARY SYPHILITIC. M. FORNS, p. 51.

(*Ibidem*, Feb. and March, 1915, vii, No. 3.)

A CLINICAL AND THERAPEUTIC STUDY OF SOFT CHANCRES OF THE ANUS. JOSÉ S. COVISA, p. 283.

This is a very interesting paper, in which the writer gives a lucid description of his clinical findings and therapeutic measures.

The anal region markedly modifies the clinical picture of the soft chancre on account of its anatomical relations and functions and therefore makes the diagnosis more difficult than in any other part of the body. It transforms an otherwise benign and indolent lesion into a serious condition, causing great discomfort to the patient. It also necessitates a more strenuous treatment under anæsthesia.

Etiology: anal soft chancres are more common in women on account of the proximity of the vagina, the discharges from it infecting the anus, and on account of anal intercourse.

The peri-anal soft chancres have the same general characteristics of soft chancres elsewhere. They are nearly always multiple, painful, with a soft base, scalloped, undermined borders, and can be cured easily by local applications. The soft chancres of the anal orifice or of the columns of Morgagni are nearly always in the anterior or posterior commissure and are mostly of the fissured type, and on account of this resemble the syphilitic chancres.

So, when the anal orifice is smoothed out the characteristic lesions can be seen, any may be confirmed by finding Docréy's bacillus in the undermined edges characteristic of this condition. The condyloma here is made up of a small, hard tumor of fibrous character, situated on the margin of the anus, usually in the anterior or posterior commissure; it may be single or multiple, forming a ring of condylomata around the anus. The tumor is excavated on the anal surface, and this ulcerating excavation constitutes the real venereal chancre.

The condyloma is really (according to Lermoyer) the satellite of the chancre of this region. It persists long after the chancre has been cured, and in this way it seems a part of it, as its presence practically proves the previous existence of the chancre.

The severe pain and the free flow of blood, with the presence of the tumors, sometimes leads one to make a diagnosis of external hæmorrhoids.

The encrusted chancrous ulceration extends itself into the anal orifice and loses itself in the folds of this region. Further exploration is acutely painful, as in cases of fissures of the anus, causing a spasmodic constriction of the anal sphincter, interfering with any further examination.

To make this examination one needs complete relaxation of the sphincter, and the author recommends, after discussing different methods, the "circumscribed spinal anæsthesia" of Ravaut. This consists in the injection, into the dural cavity of the spine, of a very concentrated solution of novocaine, diluted in the self-same spinal fluid, injecting it in the lowest portion of the spine. The solution of novocaine is a 50% solution, of which only one drop is used.

After two or three minutes there is complete anæsthesia of the cauda equina. The patient being in the dorso-sacral position, the anal sphincter is then stretched. The chancres that begin at the anal orifice can be seen extending into it and occupying sometimes a third of the circumference or causing such a severe inflammation and tumefaction as to give rise to what Ravaut and Bord have named "anitis chancrosa."

On account of auto-inoculation, some chancres are totally intra-anal and cannot be seen until the sphincter is dilated, but no extension into the rectum proper was found. Local external applications are therefore only of slight value. When the ulcerations are extensive, cicatrization with consequent stricture of the anus is to be thought of.

Treatment: having the chancres in full view following anæsthesia of this region, any treatment used for soft chancres may be applied, viz.: saturated solution of copper sulphate, camphorated phenol, iodoform, etc.

On account of the anæsthesia the treatment must be practically made all in one sitting, and he therefore advises the use of the thermo-cautery, passed over all the ulcerated areas and especially on the borders of them. The cauterization must be done very carefully, and the rest of the treatment is also of great importance. The anus is plugged with an iodoform gauze tampon and opium administered by mouth, and the patient put on limited liquid diet so as to have complete rest of the parts. At the end of five days a purgative of castor oil is given, forcing out the tampon.

He has treated about twenty cases with very good results, except for slight pain on the day of operation. He had no complication due to the spinal anæsthesia, except slight headache in one or two cases.

In summing up, the soft anal chancres possess a special clinical picture due to their location. The most marked characteristics are the formation of the

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accompanying condylomata and the extension into the anus, so that it interferes with the examination and treatment.

To expose them and treat them properly it is of absolute necessity, according to the writer to: first, use the spinal anæsthesia of Ravaut or some other that produces a deep local anæsthesia; second, use the superficial cauterization with the thermo-cautery; and third, the complete rest of the anus, that is to say, the temporary stoppage of defæcation accomplished by the administration of opium.

A CASE OF TERTIARY PHAGEDÆNIC SYPHILIS. E. A. SAINZ DE AJA, p. 156.

SYPHILIS OF THE NERVOUS SYSTEM; SYPHILITIC PARAPLEGIA OF THE ERB TYPE. V. GIMENO, p. 166.

A CASE OF MYCOSIS FUNGOIDES. J. S. COVISA, p. 183.

A CASE OF ECCHYMOTIC PURPURA OF UNCOMMON DISTRIBUTION. E. A. SAINZ DE AJA, p. 187.

A case of an apparently healthy woman with an ecchymotic rash, distributed only on the face, neck, chest and arms.

A CASE OF PIGMENTED SYPHILIS. J. SAINZ DE GRADO, p. 194.

FURUNCULOSIS TREATED WITH STAPHYLOCOCCUS VACCINES. V. GIMENO, p. 197.

RELAPSING ORTHOSTATIC PURPURA. E. A. SAINZ DE AJA, p. 207.

A report of a case of a young woman suffering from a rash of the lower extremities. On account of preceding syphilitic history, the patient was put to bed and given a course of mercury and neosalvarsan. The rash disappeared but, on arising from bed, there was a relapse. This occurred several times, and then the intestinal tract was purged on the supposition that it was the cause of the rash, but with the same negative result. Working on the theory that the hæmorrhages were due to changes in the vessel walls, the patient was given the phosphates, carbonates and chlorides of calcium with another injection of salvarsan. She then improved and the rash disappeared, following prolonged administration of calcium salts.

REVISTA CLINICA DE MADRID.

(Apr. 30, 1915, vii, No. 8.)

Abstracted by G. A. CARLUCCI, M.D.

A CLINICAL AND THERAPEUTIC STUDY OF SOFT CHANCRES OF THE ANUS. JOSÉ S. COVISA, p. 283.

Abstracted in the *Actas Dermo-sifiliograficas*, in this issue.

AMERICAN JOURNAL OF THE MEDICAL SCIENCES.

(May, 1915, cxlix, No. 5.)

Abstracted by R. C. JAMIESON, M.D.

HERPES ZOSTER OF THE CEPHALIC EXTREMITY, WITH SPECIAL REFERENCE TO THE GENICULATE, AUDITORY, GLOSSOPHARYNGEAL AND VAGAL SYNDROMES. NORMAN SHARPE, p. 725.

Sharpe believes zoster to be due to a specific infection, as it involves only nerve structures containing unipolar cells, which attacks a ganglion and often more than one, producing a syndrome of symptoms, although the vesicular eruption may be limited to the area supplied by the ganglion first affected. The adjacent ganglia show inflammatory changes as well as the ganglion most affected, although there may be no external evidence of their involvement. Zoster may affect alone or in combination the ganglia of the fifth nerve, the ninth, the vagus and the auditory.

He emphasizes the frequency of multiple involvement and the consequent production of a variety of clinical symptoms, which should be carefully studied to arrive at any definite knowledge of the sensory distribution of these ganglia.

(*Ibidem*, June, 1915, cxlix, No. 6.)

SOME PROBLEMS IN THE PATHOLOGY OF SYPHILIS. J. A. FORDYCE, p. 761.

This most interesting article summarizes a great deal of the recent literature and knowledge on the subject. It revises many of the former ideas on syphilis and should be abstracted in detail.

The question of immunity in mothers of syphilitic children is discussed and the older ideas overthrown. Individuals may harbor spirochætæ for years and consequently be immune to further attacks, but become susceptible when those spirochætæ are removed. Infection without a demonstrable primary lesion is admitted, as the spirochætæ may gain entrance to the lymph or blood stream direct. Resistance to reinfection is weak at first, but reinoculation is possible if made eight days before the evolution of the primary lesion. Resistance increases until the secondary stage, when it is at its height, and this refractory state (anergy) has been demonstrated to be specific.

The difference in the lesions in the various stages of the disease is not due to differences in the organisms but to altered resistance on the part of the host, this resistance being high at first and gradually becoming weaker as the number of spirochætæ diminishes.

Intensive treatment, insufficient to produce a cure, hastens the anaphylactic stage and severe local symptoms are more liable to develop. Racial immunity does not exist nor is a healthy child of syphilitic parents immune. The various races are affected differently, e.g., American Indians are affected but do not develop tabes or paresis, while negroes develop paresis, rarely tabes. It is being conceded more and more that foetal infection is indirect, that the mother transmits to her offspring, she having previously contracted the disease; the chances of infection, however, diminishing as the disease reaches the later stages. The majority of mothers of luetic infants have a positive Wassermann reaction, and it is believed that spirochætæ pass from the mother through the placenta to the blood of the child.

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Fordyce does not believe in the "resting forms" of the spirochætæ, and states that trauma has a great deal to do with the localization of late lesions, spirochætæ often being found for months after the involution of old lesions. This applies to chancres as well, and would account for many cases of supposed reinfection. Spirochætæ may remain in many tissues of the body without causing any tissue reaction.

The vascular system is especially predisposed to changes in this disease, a leucocytosis being present in untreated secondary cases. The disease process always begins as a lymphatic and plasma cell infiltration and the various lesions are due to vascular changes, causing gummata and nodules with giant cell formation, or serpiginous lesions from progressive thrombosis. Late changes are due to a weakened or changed tissue reaction (allergy). Aortitis is frequent, and is a common cause of death, although the disease may be entirely latent with a positive Wassermann test in about 80% of cases. Death from this complication may occur early, from six months to many years after infection, and cardiovascular involvement should be looked for in all cases of latent syphilis having a persistent positive Wassermann test.

Involvement of the nervous system also occurs early, probably within the first few months, the percentage of involvement in the secondary stage varying from 78% to 20%. According to some authors, nerve syphilis depends upon an anaphylactic reaction in the tissues of the central nervous system, but a low-grade meningitis may be present for years without symptoms. To quote his final conclusions regarding tabes:

"The few pathological examinations which have been made reveal, however, changes in the meninges about the posterior roots, between the ganglion and the cord. It is not so difficult to understand how an infiltration in this region by pressure could produce degeneration of the afferent fibres extending to the posterior columns and leading to an ascending tract degeneration, following the well-known law that a destruction of the neuron is followed by a degeneration along its distribution. This explanation is a much more plausible one than a primary degeneration without inflammatory manifestations."

PELLAGRA IN CHILDHOOD. F. C. KNOWLES, p. 859.

Knowles found pellagra to be rather frequent in childhood (10% of all cases), seldom, however, attacking those under two, and being evenly divided between males and females, the negro being very slightly susceptible.

Other conditions of childhood seemed to be a predisposing factor in the development of pellagra, such as hook-worm disease and the exanthemata. The cutaneous symptoms in the children were more pronounced than the nervous and gastro-intestinal symptoms and the mortality rate was comparatively low. Pellagra is not hereditary, although the child may develop a weakened resistance.

(*Ibidem*, July, 1915, cl, No. 1.)

CERTAIN MEDICAL ASPECTS OF RECURRENT MALIGNANT TUMORS. JAMES B. HERRICK, p. 25.

Herrick calls attention to the fact that recurrences may occur in areas other than the original tumor, even years after removal of the primary growth, and cause indefinite symptoms of obscure conditions that cannot be treated by surgical means. These conditions are very indefinite and may often pass undiagnosed unless there is knowledge of some previous malignancy. He warns against operation for malignant tumors if there is any possibility of metastases, and recommends a thorough and complete examination before any such operation be done.

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VALUE OF RADIUM, SUPPLEMENTED BY CROSS-FIRE ROENTGEN RAYS, IN TREATMENT OF MALIGNANCY. R. H. Boggs, p. 30.

Boggs believes in the value of both radium and Roentgen rays, but states that each has its place, and after selecting the case and method of treatment it is then merely a matter of technique. For epithelioma, radium and Roentgen ray are equally good, but preference should be given radium when the lesion is situated on a mucous membrane or in an inaccessible cavity. Leukoplakia is also amenable to radium treatment.

Hard, filtered rays of the Roentgen ray are necessary to approximate the emanations from radium, and he states that best results are obtained with radium when the radioactive substance can be placed in direct contact with the part to be treated, provided the tumor is 4 cm. or less in thickness. In other cases hard Roentgen rays should be used externally, but best results are obtained by a combination of these methods.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(July 3, 1915, lxx, No. 1.)

Abstracted by WM. H. BAUGHMAN, M.D.

AUTOSERUM THERAPY IN THE TREATMENT OF PSORIASIS AND OTHER SKIN DISEASES. J. S. WILLOCK, p. 14.

The results obtained were not such as to convince Willock that this method of treatment is of any great value.

BLASTOMYCOSIS OF THE EYELIDS, WITH REPORT OF CASES. E. JACKSON, p. 23.

(*Ibidem*, July 10, 1915, lxx, No. 2.)

SYPHILIS OF THE BRAIN. ITS OCCURRENCE, SYMPTOMS AND PREVENTION. J. COLLINS, p. 139.

The *Spirochæta pallida* attacks all the intracranial constituents, producing many different manifestations. Clinical symptoms must frequently be verified by laboratory findings. The two factors which have stood in the way of advancement of knowledge of syphilis are that syphilitic affections of the nervous system cause well-defined clinical entities, and the separation of these conditions into syphilitic and parasyphilitic affections. The spirochætæ are undoubtedly the cause of tabes and paresis. Differences in lesions or effects are due to the time elapsed since the introduction of the spirochætæ; the number of spirochætæ present and possibly the variety or strain; and to the individual's vital resistance.

Sensitization of the tissues takes place soon after infection. Later a state of hypersusceptibility is developed as an immunity response, leaving certain tissues abnormally susceptible to the toxic action of the virus.

Since the introduction of salvarsan, reliable evidence has been furnished that the formerly so-called parasyphilitic diseases can at least be brought to a cessation of activity.

Clinical and laboratory evidence shows that, in a large number of early syphilitics, the central nervous system is affected, many early subjective symptoms being undoubtedly due to this early invasion. The individual clinical symptoms are not pathognomonic, but their grouping, mode of onset, development and conduct are most suggestive.

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The symptoms, according to their frequency and diagnostic importance, are:

1. Headache.
2. Mental irritability, alteration of personality, explosiveness, depression, inadequacy.
3. Cranial nerve disorder.
4. Insomnia.
5. Disorder of motor function.

To prevent the brain from becoming affected, the patient should be treated immediately, vigorously and properly.

(*Ibidem*, July 17, 1915, lxx, No. 3.)

INTRASPINAL THERAPY IN SYPHILIS OF THE CENTRAL NERVOUS SYSTEM. H. F. SWIFT, p. 209.

The amount and kind of treatment are largely determined by the localization of the lesion, the difference in the nature of response of the various tissues, and by the stage of the disease.

Functional cure in early cases showing slight pathological changes in the cerebrospinal fluid is usually more complete than the later stages.

Following the demonstration of the *Spirochaeta pallida* in parietic brains, the late nervous lesions have been divided into 1, the interstitial type, 2, the parenchymatous type, and 3, the vascular type.

Results of treatment are judged by functional improvement and improvement in laboratory findings. While not overlooking the similarity between tabes and paresis, the many striking differences should be emphasized. The hope that the treatment of all forms of lues would be satisfactory, when it was demonstrated that salvarsan could be safely used in the treatment of lues of the central nervous system and that all forms of lues are due to the same spirochæte, has not been realized; an additional method of treatment is desirable.

Of the various methods of subarachnoid therapy, Ogilvie's method is an advance over the others. Byrne's method of injecting an albuminate of mercury solution deserves careful study. The intraspinal injection is preferable to the intracranial. The objections to intraspinal treatment are being overcome by increasing experience and experimentation. The action of the autosalvarsanized serum may be due to one or several factors. 1, the serum is spirochæticidal. 2, it may contain syphilitic antibodies. 3, the local irritation may increase the permeability of the meninges. 4, the acute irritation may exert a beneficial effect on the chronic inflammatory process. 5, the normal serum may contain substances which cause resolution of the syphilitic exudate.

The results of treatment of tabetic patients by intraspinal injections of auto-salvarsanized serum are most encouraging. With paralytics, the results are unsatisfactory.

ROENTGEN-RAY EPITHELIOMA, CURABLE BY RADIUM. AN APPARENT PARADOX. R. ABBE, p. 220.

In the early stage, cure may be assured. Several cases successfully treated are cited.

THE VACCINE TREATMENT OF RINGWORM OF THE SCALP. A. STRICKLER, p. 224.

This work is based on the demonstration, by Kolmer and Strickler, that an antibody is formed in the blood of a patient with tinea tonsurans, which produces a positive complement fixation test and gives a positive skin reaction. The

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technique of making and injecting the vaccine is explained, and the histories of cases successfully treated given.

PARONYCHIA: A SIMPLE METHOD OF TREATMENT. AN ANALYSIS OF THREE HUNDRED CASES. I. SEFF and S. BERKOWITZ, p. 234.

An improved and simple method of treating paronychia is given in detail, with illustrations.

LEPROSY OR SYRINGOMYELIA? G. B. HASSIN, G. BURKE and J. NUZUM, p. 235.

Description of a case, showing the difficulties in diagnosis between the two unrelated diseases.

(*Ibidem*, July 24, 1915, lxx, No. 4.)

THE MANAGEMENT OF BURNS. A. RAVOGLI, p. 291.

Method of treatment is determined by the degree and extent of the burn, the causative factor, and the condition of the nervous system. The best is the one which favors sloughing of the burned tissue, maintains sterility and promotes granulation and the growth of new skin. Shock, the effect of absorption of toxins, and the condition of the urinary apparatus are important factors.

Morphine, to control pain and favor rest; a stimulant, as strychnine, where shock is present; intravenous and subcutaneous injections of normal salt or Fischer's solution, digitalis internally, and quinine as an antiseptic, where the kidneys are involved, may be combined with external treatment.

In first degree burns, a dry powder is used: or a 2 per cent. aluminum acetate solution, if the pain is severe, followed by dry powder. Salves and continued baths are to be avoided.

Second and third degree burns are treated in very much the same way; wet compresses of aluminum acetate solution, covered with oiled silk, are continuously applied; blisters are punctured; and epidermal shreds, if easily detached, may be cut off. Persistent oozing and granulating points may be touched with a 3 per cent. silver nitrate solution, and covered at night with boric acid ointment. Exuberant granulations are controlled with silver nitrate. Where infection occurs, a 1 to 2,000 bichloride solution is used. If the granulations become pale and show a tendency to pus formation, a mixture of castor oil and Peruvian balsam gives good results. When the wound becomes covered with granulations, exposure to the air and to the sun hastens improvement and tends to disinfect the wound. Contractures are avoided by keeping the extremities in proper position.

XERODERMA PIGMENTOSUM. ITS TREATMENT WITH AUTOGENOUS SERUM. J. B. KESSLER, p. 300.

Two cases showed improvement in their general condition under injections of autogenous serum and local applications of theobroma.

(*Ibidem*, July 31, 1915, lxx, No. 5.)

THE EFFECT OF POTASSIUM IODIDE ON THE LUTIN REACTION. PRELIMINARY REPORT. J. W. SHERRICK, p. 404.

A positive luetin reaction was obtained in cases, both syphilitic and non-syphilitic, where potassium iodide, or other drugs containing iodine, was adminis-

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tered previous to, simultaneously with, or shortly after the luetin injection. Other substances, as agar and starch, when injected intradermally, gave similar reactions in these cases.

SYMPTOMATOLOGY AND TREATMENT OF SOME COMMON PALMAR ERUPTIONS. R. L. SUTTON, p. 407.

A variety of diseases, showing a predilection for the palmar surfaces, are described and illustrated.

(*Ibidem*, Aug. 7, 1915, lxx, No. 6.)

DERMATOLOGY OF THE ANCIENTS. HOWARD FOX, p. 469.

A valuable and highly interesting paper on the historical aspect of dermatology. The paper represented the presidential address before the Dermatological Section of the American Medical Association.

A CASE OF PRIMARY DIPHThERIA OF THE SKIN. L. A. EMGE, p. 529.

(*Ibidem*, Aug. 14, 1915, lxx, No. 7.)

SYPHILIS OF THE STOMACH. A CLINICAL STUDY OF TWENTY-SIX INSTANCES OF DYSPEPSIA, ASSOCIATED WITH POSITIVE WASSERMANN AND NOGUCHI REACTIONS. F. SMITHIES, p. 572.

The diagnosis of syphilis was made principally on positive Wassermann-Noguchi reactions, only about one-third of the cases giving a history of infection.

THE RELATION OF ANIMAL TO HUMAN SPOROTRICHOSIS. STUDIES ON AMERICAN SPOROTRICHOSIS, iii. K. F. MEYER, p. 579.

Considering all the diagnostic methods of identification, the sporotrichia isolated from animals are identical with those from man. The pathogenicity of the animal sporotrichia is lower than that of the human for laboratory animals, generalization being less frequently seen. That the animal sporotrichia are infectious for man was shown by the development of a typical case of sporotrichosis while working with the cultures. Animal and human sporotrichosis occurs in practically the same areas of the country.

A LABORATORY METHOD FOR THE DIAGNOSIS OF SMALLPOX. J. N. FORCE and H. L. BECKWITH, p. 588.

Intradermal injections of the contents of small-pox vesicles made into rabbits, previously sensitized by vaccination, produced skin reactions in from twenty-four to forty-eight hours. The contents of chicken-pox vesicles did not provoke this reaction where the rabbits had been sensitized with small-pox vaccine.

DISTURBANCES OF THE ACOUSTIC NERVE IN THE EARLY STAGES OF SYPHILIS. G. H. WILLCUTT, p. 602.

The most noticeable disturbance was shortening of bone conduction. The majority of the cases examined were in the secondary stage of syphilis.

SYPHILIS OF THE INTERNAL EAR (HEREDITARY). H. HASTINGS, p. 607.

Case report.

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RINGWORM OF THE SCALP IN CHICAGO; A BACTERIOLOGICAL STUDY OF ONE HUNDRED CASES.

By B. BARKER BEESON, M.D., Chicago.

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ALTHOUGH ringworm of the scalp is met with almost daily in our large cities, but few investigations concerning it have been carried on in America. A careful search of the literature has brought to light the fact that in only a very few of our cities has a systematic attempt to ascertain the relative frequency of the various ringworm fungi been carried out. This is, we believe, the first attempt to classify them as they exist in Chicago.

Charles J. White¹ found that in Boston the small-spored fungus was responsible for ninety-five per cent. of all scalp cases; Corlett,² of Cleveland, noted the presence of the same agent in over ninety per cent. of his cases in which that region was involved; and Wende,³ in a series of ninety scalp cases in Buffalo, found the microsporon present in eighty-nine. Ormsby⁴ has noted a preponderance of the small-spored variety in Chicago. Cultures of both large and small-spored groups were demonstrated before the American Dermatological Association in 1899, by Pollitzer.⁵ The microsporon as found in New York corresponded with the cultures sent from Paris, but the large-spored variety was different.

In London, the percentage of the scalp cases due to the small-spored ringworm is much as with us, since Colcott Fox,⁶ Adamson⁷ and Malcolm Morris⁸ found that their results varied from eighty to ninety-seven per cent. Mayrand⁹ has found the microsporon in Quebec, Canada. Sabouraud¹⁰ stated that it accounted for only forty per cent. of his scalp cases. In Italy it is rarely met with, the great majority of the scalp cases there being due to the trichophyton, but Mibelli¹¹ and Pasini¹² have found the microsporon there. Germany is another country where ringworm of the scalp is more common than is generally known. Epidemics have been reported by

Huber¹³ in Berlin, and in Braunschweig by Sternthal.¹⁴ In Denmark most cases are due to the large-spored variety, but Bang¹⁵ has noted an epidemic in Copenhagen due to the small-spored fungus. A number of cases due to this same organism have been observed in Vienna by Stein¹⁶ and Riehl.¹⁷ Pergani¹⁸ has found similar cases in Barcelona. In Switzerland, a large epidemic, comprising one hundred and ninety-six cases, all due to the microsporon, has been reported by Bloch,¹⁹ of Basel; while Zollikofer²⁰ has seen forty-five cases in St. Gall due to the *Microsporon lanosum*, the most common small-spored fungus of animal origin. DuBois has seen a few cases in Geneva due to one of the trichophytons. Nicolau,²¹ in his series of forty scalp cases, found the trichophyton present in all, and states that he has never seen a case due to the microsporon in Bucharest. In Belgium, especially in Brussels and Ghent, Dubois-Havenith²² and Minne²³ have found a number of cases due to the microsporon. Ringworm of the scalp is unknown in the province of Assam, British India, according to Powell.²⁴ It is very frequent in the French Soudan, states Joyeux,²⁵ where all cases are due to one of the large-spored groups. In Japan, the microsporon has been found in Tokio by Aoki.²⁶ Urihuri,²⁷ of Buenos Ayres, reports that in thirty-five scalp cases he found the trichophyton present in thirty-one. Galais found most cases in Algiers to be due to a large-spored ringworm. Munro,²⁸ of Sydney, states that the two groups are about equally represented in Australia.

Sabouraud's researches having made him the universally acknowledged ringworm authority, we have closely followed his methods, so that our results may be compared with those which he obtained.

First, as to culture medium. He recommends, and we have employed in all cases, the so-called "proof" medium, having the following composition:

Maltose (Chanut)	40 grams
Peptone (Chassaing)	10 "
Agar-agar	18 "
Water (pure)	1000 cc.

Having chosen the culture medium, and supposing that it has been prepared and slanted in test-tubes, all is ready for the next step, which is to obtain suitable material for cultures. Let us assume that a suitable area has been found, since it is not the purpose of this article to touch upon the clinical diagnosis. No previous cleansing of the patient's head is necessary; merely pass the epilating forceps through the flame of a Bunsen burner or alcohol lamp. The epilated

hairs are placed upon a glass slide, which has been sterilized in the flame, just as the forceps have been. Washing these hairs in alcohol or any other solution is unnecessary. Since in many cases the material was obtained at a distance from our laboratory, we did not at once make use of it, but covered the hairs from each case with another sterile slide, wrapped the whole in paper and bound it securely with a rubber band. After a thorough trial, representing several hundred cultures, we can heartily recommend this method, both for its simplicity and for its high percentage of uncontaminated growths. Seventy-five to eighty per cent. of pure cultures was about the average we obtained. When dealing with a case of kerion, one should not only employ the epilated hairs for growths, but should also make smears of some of the purulent contents.

Hairs obtained in the manner described can be kept for months, and positive cultures secured at the end of that time as well as on the day they were epilated. The hairs are cut into small bits with a flame-sterilized scalpel and then placed upon the slanted agar, two to three centimetres apart, by means of a thick platinum loop. An ordinary loop is too pliable for this purpose. Often the bits of hair do not readily adhere to the loop. This can be remedied by gently heating the latter and then pushing it into the medium, enough of which will adhere to insure an easy manipulation of the hair-fragments.

Using test-tubes somewhat smaller than those employed by Sabouraud, we made, as a rule, three cultures in each one, instead of five, as he did. The tubes are stoppered with non-absorbent cotton; no impermeable coverings, such as cork or finger-cots, should be used, unless one wishes to preserve the growths, in which case a few (two or three) drops of formalin are placed upon the cotton stopper. Over this a finger-cot is snugly drawn and secured by a rubber band. This insures almost indefinite preservation of the specimen. Any growth exhibiting unusual characteristics should be at once transferred to slanted proof agar in one hundred cubic centimetre Erlenmeyer flasks. This not only permits a greater development, but is excellent for photographic purposes. These fungi thrive best at room temperature, hence all of our cultures have been exposed to the free air.

In doubtful cases, the ringworm should first be sought, a step which we recommend as a routine procedure. This is quickly and satisfactorily performed by placing the hairs on a slide, adding a drop of forty per cent. potassium hydroxide solution, and covering the whole with a cover-glass. The high-power lens ($\frac{1}{6}$) with most of

the light cut off, is best for this purpose. If the specimen is gently heated, it will clear more quickly.

When an ointment has recently been applied to the scalp, or when it is unusually greasy as the result of a seborrhœa, the epilated hairs should first be soaked in chloroform to remove the fat. Good unstained specimens are obtained by first using chloroform, then forty per cent. potassium hydroxide, washing in water and mounting in glycerin. These will keep indefinitely if the cover-glasses are ringed with asphaltum. This method is preferable to employing chloroform, boiling in formic acid, and mounting in Canada balsam.

After trying several staining methods, we have chosen the following, and strongly recommend it. The steps are as follows: (1) Soak hairs in chloroform; (2) place in formic acid, which is slowly (in two to three minutes) brought to the boiling point; (3) wash thoroughly in distilled water; (4) stain for one minute in Sahli's borate blue; (5) decolorize in absolute alcohol; (6) clear in xylene; and (7) mount in Canada balsam. This stains the fungus a pretty blue and permits of its relation to the hair being easily made out.

Just a few words concerning tincture of iodine, which is a widely employed remedy in ringworm. While of value in preventing the spread of the disease, it does not penetrate deeply enough into the hair-follicles to effect a cure. This fact has been proven to our satisfaction in a number of cases in which this preparation has been liberally applied to the scalp for some time. The hairs when epilated were seen to be deeply stained in their upper parts, but the lower portions were untouched, and gave positive cultures.

All of our cases were found in children, and only fifteen per cent. of these were females. Their ages ranged from four to fourteen years. Forty-three per cent. were found in colored children, all being boys but one. In eleven cases Italians were affected. The largest epidemic noted was among the inmates of a colored boys' home, where twenty-five cases were seen. Another one involved eight boys in a Lutheran orphan home. The largest number of cases seen in one family numbered five, all of the children of the family being affected. Our cases were obtained from various sources, but chiefly from the Chicago public schools, the Central Free Dispensary at Rush Medical College, the Chicago Polyclinic, the Children's Memorial Hospital, the Cook County Hospital, and the Home for Destitute Crippled Children.

The character of the growth furnished by each group or case, where the specimen is unique, will be briefly described.

SMALL-SPORED GROUP. Those cases, caused by the microsporon

were due, except in one instance, to *Microsporon Audouini*, Figs. 1, 2, 3, 4 and 6. The growth first appears on the fourth or fifth day as a tiny elevation marking the spot where the hair-fragment has been placed. From this point numerous delicate processes go forth, giving it at first the appearance of a spider's web. The culture soon assumes a downy appearance, at first almost pure white, but as it ages it assumes a slightly grayish hue. It may be divided into a number of segments, but this was not common in our experience. Formation of concentric circles also occurs. This organism grows quite rapidly, but not so quickly as the small-spored members of the animal group. In one case, an unusual type, corresponding to *Microsporon velveticum* (Fig. 5) was obtained. This growth did not at once differentiate itself from *Microsporon Audouini*. By the end of four weeks, however, the difference was quite apparent. It was of a velvety appearance, the centre slightly brown, the remainder creamy in color, shallow furrows going outward from the centre, divided it into five almost equal sectors. This group accounted for eighty-nine per cent. of our cases.

LARGE-SPORED GROUP (*Endothrix* type). (A) The growth of this variety began as a tiny whitish hemisphere (Fig. 14) which, like all of our *endothrices*, grew very slowly, attaining a diameter of only ten millimetres in thirty days. The centre was somewhat elevated and surmounted by a few antennæ-like processes. The growth was dry and powdery, and at first of a creamy color, which in several instances became bluish later on. Division into a number of segments always occurred. This was the most frequent form of *endothrix* encountered, being present in four of seven cases. It corresponds to *Trichophyton acuminatum*, which was found in twenty per cent. of all scalp cases in Paris, and in thirty per cent. of those due to the members of the large-spored group. (B) Another group (Figs. 7 and 8) beginning somewhat like the acuminate form, but soon differentiating itself by its intense violet color and lack of processes arising from the centre. This variety was present in fifteen per cent. of scalp cases in Paris, but is far more common in Italy, Roumania and Argentina. We found two cases corresponding to this *Trichophyton violaceum*. (C) A crater-like culture of a cherry-red color (Fig. 13) with well-defined outlines, and steep, punched-out borders; the base, which is irregular, being rendered so by coiled processes which cross it. This type, which was found in one case, belongs to the crateriform group, but does not correspond exactly to *Trichophyton crateriforme* in color or shape. Neither does it exactly imitate *Trichophyton exsiccatum*,

nor *Trichophyton effractum*. The so-called "primrose" crater of Colcott Fox is speckled and has a different color. After a careful investigation, we are of the opinion that this is a hitherto undescribed member of the crateriform group.

LARGE-SPORED GROUP (*Ectothrix* type). Four cases due to the members of this group were met with, as follows: (A) A downy growth (Fig. 12) with marked central elevation, much like a little cupola, and surrounded by a narrow, fluffy band. From this hub-like centre go forth furrows like the spokes of a wheel and divide the culture into eight segments. Like most of the ectothrices, this grew rapidly, reaching a diameter of six centimetres in twenty-five days. Except in the matter of color, it bears a marked resemblance to *Trichophyton rosaceum*, which has been found in Paris and London. (B) Another circular growth (Fig. 11) with small sulphur-colored elevations and downy zone, which is in turn enclosed by a whitish circle, around which is an outer band, one centimetre in width, intersected by numerous tiny grooves. (C) A culture resembling very much one of the skin lesions found in the condition known as herpes iris (Fig 15) with its central spot or bull's eye and concentric circles. This was at first believed to be *Microsporon lanosum*, but the characteristic collar of that variety was lacking. (D) a powdery, lime-colored growth, with a central elevation and tiny processes extending from the outer edge, the whole somewhat suggesting a star. This growth belongs to the gypsum or powdery group, and corresponds to *Trichophyton asteroides* (Figs. 9 and 10) which has been found in most scalp cases caused by the pus-producing ringworms. B and C of this group we were unable to classify according to their appearance when grown on culture medium. Microscopically, they were ectothrices.

Our series of cases may then be classified as follows:

Microsporon group 89%

Large-spored group:

Endothrix 7%

Ectothrix 4%

Sabouraud's series:

Microsporon 40%

Endothrix 58%

Ectothrix 2%

Thus it will be seen that the results which we have obtained, while agreeing with those of other American investigators, differ

PLATE XLII.—To Illustrate Article on Ringworm of the Scalp in Chicago,
by B. BARKER BEESON, M.D.



Fig. 1. Fig. 2. Fig. 3. Fig. 4.
Figs. 1, 2, 3 and 4. *Microsporon Audouinii*.



Fig. 5. Fig. 6.
Fig. 5. *Microsporon velveticum*. Fig. 6. *Microsporon Audouinii*.



Fig. 7. Fig. 8. Fig. 9. Fig. 10.
Figs. 7 and 8: *Trichophyton violaceum*. Figs. 9 and 10: *Trichophyton asteroides*.

PLATE XLIII.—To Illustrate Article on Ringworm of the Scalp in Chicago,
by B. BARKER BEESON, M.D.



Fig. 11.
Trichophyton ectothrix.

Fig. 12.
Trichophyton ectothrix.



Fig. 13.
Trichophyton
crateriforme.

Fig. 14.
Trichophyton
acuminatum.



Fig. 15.
Trichophyton ectothrix.

markedly from the conclusions arrived at in Paris. The great majority of cases there due to the small-spored ringworm were caused by the *Microsporon Audouini*. With this our results agree. In Paris, *Trichophyton crateriforme* caused most of the endothrix cases, while a majority of those due to the ectothrix were caused by *Trichophyton asteroides*. We did not find a typical crater-like trichophyton, and *Trichophyton asteroides* was found in only one case. The view that the so-called "black-dot" ringworm is due in nearly all cases to either *Trichophyton acuminatum* or *violaceum* was confirmed by our findings. In four cases of this type we found *Trichophyton acuminatum* three times and the other once.

We thank most heartily all those whose aid has made this undertaking possible, especially Dr. Oliver S. Ormsby, not only for entrusting the performance of it to us, but also for his kindly counsel and frequent encouragement while the work was being carried on. Our hearty thanks are also due Dr. Raymond Sabouraud for instruction at l'École Laitier, as well as for the invaluable assistance afforded by his work, "Les Teignes." This opportunity is also taken to thank the following physicians, through whose generous coöperation many of our cases were secured: A. N. Mackey, Hugh O. Jones, Frank E. Simpson, L. C. Pardee, Edward Oliver, I. E. Kohn, S. C. Dickerson, H. C. Rolnick, C. J. Challenger, D. C. Phillips and B. W. Bivins.

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THE USE OF MERCURY IN VERRUCÆ PLANÆ
JUVENILES.

BY CHARLES J. WHITE, M.D., Boston.

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ON January 20, 1915, the wife of a physician, Mrs. F. D. McA., consulted me on account of multiple disfiguring lesions on the cheeks, neck and the back of the hands. The first "spot" developed two years ago at the age of twenty-four, and remained more or less unique up to within a few months, when new and similar lesions began to appear in ever-increasing numbers; so much so that the patient, an otherwise pretty woman, was much disfigured by these "blemishes," which numbered literally hundreds, and was rapidly becoming a recluse. These lesions were isolated or closely grouped or almost coalescent, pinhead to pea-sized, flat-topped, decidedly polygonal or squarish, pale pink-yellow papules—in other words, verrucæ planæ juveniles.

The patient, as mentioned above, consulted me as to treatment. It was evident that something must be done, not only from a cosmetic point of view, but also because of the woman's health, which was feeling the strain of worry and forced seclusion. Past experience of others or of myself therapeutically did not seem to suggest any brilliant prognosis, and then the idea occurred to me that warts were supposed nowadays to be due to some protozoön, and, if this supposition were correct, why should mercury not prove useful? Protoiodide of mercury pills in one-quarter grain strength, three times a day, were prescribed and an ointment containing salicylic acid was advised.

One month later the patient returned, and, more to my surprise than to hers, I believe, there was not a wart to be seen and, so far as I know, none have recurred since.

Several thoughts then came to my mind: 1. Was this result an accident? Because, of course, we are all aware of the fact that warts can disappear "in a night." 2. Would the same medicament succeed in other similar cases? 3. Had other men employed mercury for the same purpose and with similar happy results?

Let me answer these questions seriatim.

Juvenile flat warts do not come to our attention very often, either in public or private life (statistics do not tell us the exact percentage

of their incidence, for in those at my disposal all varieties of warts are enumerated under one title, unfortunately); but since this episode, it has been my good fortune to treat in my office two more cases of the disease, and Dr. E. Lawrence Oliver, whom I asked to help me in this investigation in the skin department of the Massachusetts General Hospital, has been able to try the drug in three more examples of the affection, and Dr. F. S. Burns also in one instance.

CASE REPORTS.

CASE 2. D. M. P., an art student, aged 26 years, came to me in October, 1914, with sycosis vulgaris of three years' duration. He consulted me for this affection through the winter and spring on four different occasions, and on April first my notes state that all signs of sycosis vulgaris had disappeared and that there were many juvenile flat warts present throughout the bearded face. Protoiodide pills were prescribed, as in the first case, together with an ointment of white precipitate of mercury and salicylic acid. The man has not returned since, but to a recent letter of inquiry he replies: "My skin is in better condition than for several years and gives promise of a complete cure. It is a grateful relief to me," etc. It is naturally unscientific to make surmises, but is it not possible that the warts have disappeared and that the patient still has recurrent vestiges of his sycosis vulgaris?

CASE 3. F. R. W., a schoolboy of 9 years, was brought to me on June 2, 1915, for treatment. One year previously a few lesions appeared on his chin. These were scratched and subsequently other and similar lesions developed around the eyes. Within a few weeks there had been an enormous increase in the number of tumors, so that on inspection one noted over the whole lower face and, in a much lesser degree, on the backs of the hands, several hundred closely packed, frequently linearly arranged, pinkish-brown, sometimes nearly hæmorrhagic, polygonal, flat-topped, large pinhead-sized papules. The child was given the zinc, carbolic acid, lime water wash to stop the very severe itching and hydrarg. cum creta, gr. $\frac{1}{10}$ and $\frac{1}{3}$ respectively, one additional pill a day until six days had been reached and this dose to be continued. On June 14th—twelve days later—the mother telephoned that there was not one wart visible! The boy was sent for and on June 16th personal inspection detected on the face no lesions save two pink macules and on the back of one hand three verrucæ vulgares—all flat juvenile warts having completely disappeared.

Dr. Oliver's cases are as follows:

CASE 4. F. V. P., aged 9 years (M. G. H., O. P. D. No. 264,659), presented herself on March 22nd, 1915, for treatment. The disease dated back two years. At first there were a few lesions near the right commissure of the mouth, but during the last two months many other tumors had developed over the entire face and backs of the hands. The lesions are small and large pinhead-sized, many in linear arrangement, following scratch marks. There must be approximately one thousand on the face and one hundred on the hands. Pills of protoiodide of mercury, gr. $\frac{1}{4}$ t. i. d., were prescribed. On March 29th, one week later, the child returned, and the note reads: "A decided improvement, no question about it." On April 12th, the last note recorded on the patient's card states: "The disease is apparently cured."

CASE 5. A colored man reported at the hospital with about forty flat warts on his chin. He was given one protoiodide pill t. i. d. and in two weeks there was not a wart visible.

Unfortunately, I cannot find this man's hospital record, but three members of

the clinic vouch for the accuracy of the diagnosis and for the therapeutic result.

CASE 6. J. H., aged 14 years (M. G. H., O. P. D. No. 214,777), requested treatment on May 27, 1915, for warts, some of which had been present for three years. There were present on the backs of both hands "hundreds" of lesions, varying in size from a pin head to a small pea. The lesions were somewhat peculiar and Dr. Oliver is not absolutely sure that they were bona fide juvenile flat warts. Protoiodide pills were given, but in this case no cure was accomplished. In addition to the possible inaccuracy of the diagnosis, it must be stated that the patient was a "State minor ward" and it is possible that the treatment was not carried out, although a social-worker, requested recently to investigate the case, reports that the authorities at the State institution declare that the boy took his pills faithfully. We must look upon this case, therefore, with suspicion, in justice to the value of mercury in the treatment of *verruca plana juvenilis*. This patient was seen by the writer on October 2nd, and the hands were covered with warts, so that this case must be considered a total failure.

CASE 7. Dr. F. S. Burns kindly permits me to report this case. A Jewish physician, 36 years of age, noticed the first flat wart on the back of his hand three months ago. This was followed by others on the backs of both hands. Two weeks ago similar lesions developed upon the face and have increased in number, in the meanwhile, to approximately 200. These are mostly in the bearded region and on the forehead. Protoiodide of mercury, gr. $\frac{1}{4}$, 3 times daily internally and a 5 per cent. ointment of salicylic acid externally were prescribed. One week later the patient telephoned that he thought there was no need of a second visit as all lesions had entirely disappeared.

Thus six undoubted cases of *verruca plana juvenilis* have been subjected to the internal action of mercury and the disease has apparently been cured, and cured quickly. One additional, but possibly doubtful, example has been treated in a similar manner, with a negative result. In a hitherto chronic and intractable and oftentimes disfiguring condition, such results are surely noteworthy and are very gratifying.

The answer to my third and final question is found in the following quotations:

DISEASES OF THE SKIN, CROCKER, 1893, p. 393: "Until recently local treatment alone has been employed, but Colrat of Lyons, confirmed by other French physicians, has reported that repeated doses of sulphate of magnesium, 2 to 3 grains in the cases of children, a half dram for adults, three times a day, cause the warts to drop off. I can confirm the truth of this from my own experience in several cases, though, of course, it is not invariably successful. Enough sulphate of magnesium to produce two or three evacuations a day should be given, and it may be combined with the acid infusion of roses or a carminative. In some cases I have thought full doses of nitro-hydrochloric acid have been of service. The tr. *thuya occidentalis* (*arbor vitæ*), in doses of 30 to 60 minims, 2 to 3 times a day, is said to be curative, but I have no experience of it. P. Müller, of Hamburg, and Pullin are strong advocates for liq. *arsenicalis*, ℥ii., three times a day for an adult, and a quarter of a drop for a child."

HAUTKRANKHEITEN, A. NEISSER and J. JADASSOHN, 1900, p. 404: "The treatment can be merely an internal one; especially the *verrucae planæ* can completely fade away undoubtedly (at least very often) in several weeks or months, on continued increasing amounts of arsenic (Fowler's solution or Asiatic pills). The other

internal medicaments (magnesia, thuya) have not proved so useful. Successful trials by suggestion are referred to. The principal reliance, however, rests on external methods"; and the authors recount the well known caustics and surgical and electrical procedures.

DISEASES OF THE SKIN, SCHALEK, 1902, p. 217. The treatment consists in the removal of the warts by electrolysis, excision or caustics.

LA PRATIQUE DERMATOLOGIQUE, 1904, iv., p. 827. DUBREUILH says:

"The plane warts do not warrant the energetic, destructive treatment accorded other varieties of the disease. Their seat on the face and their great numbers should forbid at once any medicament which produces cicatrices. One can apply the following ointment: Calomel, 1. acid. salicylic, resorcin, ââ 2; lanolin, 20." Dubreuilh goes on to say that arsenic has been recommended by Herxheimer and Marx, who claim that when this drug is administered to an individual with verruca plana and verruca vulgaris the former will be cured but the latter persist. He adds that he has seen this treatment fail more often than succeed. The tincture of thuya occidentalis fails often. Calcined magnesia is very undependable.

HANDBUCH DER HAUTKRANKHEITEN, Mracek, 1904, iii, p. 519, in which MAX JOSEPH says: "While on hard warts arsenic has no influence, it seems to act as a specific in verruca plana juvenilis. I have seen cases where after three to four weeks of arsenic ingestion many warts have disappeared; at other times three to four months are necessary. Nevertheless, I must confess that at times success by this means has come so slowly that I have been obliged to resort to other means of cure. In such cases I scratch out the warts with a sharp spoon or paint on chrysarobin or employ with good success Gaucher's salve: acid. salicylic, 1; hydragr. præc. alb., 5; vasel. flav., ad 50. By this method success is easy.

PRINCIPLES AND PRACTICE OF DERMATOLOGY, PUSEY, 1907, p. 707. Various internal remedies including arsenic are recommended—"The only reliable treatment is local."

AN INTRODUCTION TO DERMATOLOGY, NORMAN WALKER, 1911, p. 310. £ says, CO_2 snow, salicylic acid in collodion, and caustics are recommended. "Has seen crops of two to three hundred flat warts totally disappear after a series of exposures to the X-rays amounting altogether to about an hour. Though it is generally successful, I have seen the treatment fail entirely."

DISEASES OF THE SKIN, SEQUEIRA, 1911, p. 437. "In the multiple flat warts of young subjects the internal administration of lime water, to the amount of half a pint a day, is often followed by the disappearance of the warts without any local treatment. Small doses of magnesium sulphate are also credited with similar results."

PORTFOLIO OF DERMOCROMES, KINGSBURY, 1913, p. 158. "A tendency to warts is believed by some to yield to a course of arsenic, others advise the administration of repeated doses of sulphate of magnesia."

REGIONAL TOPOGRAPHICAL DERMATOLOGY, SABOURAUD, Translation, 1913, p. 119. Juvenile flat warts "may be removed by the galvano-cautery applied superficially so as not to leave a scar. Lotions of salicylic acid (2 per cent.) sometimes give favorable results. A better application is sulpho-carbolic acid, applied with a hand brush and repeated daily."

DISEASES OF THE SKIN, KNOWLES, 1914, p. 201. "This type of wart may persist, untreated, for months or years." There is no mention of internal treatment.

HANDBOOK OF DISEASES OF THE SKIN, JACKSON, 1914, p. 728. "It is said that warts may be cured by internal treatment, magnesium sulphate, tr. thuya occidentalis, nitromuriatic acid, arsenic, liq. calcis, ol. ricini, etc."

LEHRBUCH DER HAUT UND GESCHLECHTS KRANKHEITEN. LESSER, 1914, p. 192. The writer mentions no internal remedies and concludes his paragraph on treatment thus: "The flat juvenile warts often disappear with the internal administration of Fowler's solution."

DISEASES OF THE SKIN, STELWAGON, 7th Edition, 1914, p. 515. "The therapeutic

management of verruca upon which most reliance is to be placed consists of external treatment of an antiseptic, caustic or operative nature. It cannot be gainsaid, however, that there is substantial evidence that a variable influence can be exerted by certain remedies administered internally. The curative action of arsenic is well attested by the favorable experiences of a number of observers. In recent years magnesium sulphate has been commended. Crocker states that in some instances full doses of nitromuriatic acid had seemed to be of service. Whatever may be the differences of opinion as to the value of internal medication, there is, of course, unanimity as to the effectiveness of local treatment."

DISEASES OF THE SKIN, ORMSBY, 1915, p. 514. The author recommends arsenic, magnesium sulphate, nitrohydrochloric acid, etc.

DISEASES OF THE SKIN, H. H. HAZEN, 1915, pp. 242-3. The author speaks at some length upon the various external methods to be tried and briefly upon the internal remedies, but he makes no mention of the use of mercury.

DISEASES OF THE SKIN AND THE ERUPTIVE FEVERS, SCHAMBERG, 3rd Edition, 1915, pp. 236-7. Various external methods for the cure of the various types of warts are recommended, but internal medication is not even mentioned.

SUMMARY. Thus my three questions have been answered, and in conclusion it may be stated that the cure of my first case of verruca plana juvenilis by the internal administration of mercury was not a fluke; that other cases have yielded wholly and quickly to the drug; and that the usefulness of mercury in this disease is apparently not known to dermatologists.

It follows, therefore, that in future we should allow all patients bothered or disfigured by these neoplasms the benefit of mercury internally.

CHRONIC SUPERFICIAL EXCORIATION OF THE TONGUE, OR MOELLER'S GLOSSITIS; WITH A REPORT OF TWO CASES.*

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ASIDE from those of a surgical or syphilitic nature, conditions of the tongue which reach the dermatologist are so few in number and their occurrence so unusual that one may be pardoned for calling attention to one of the least well known of these interesting conditions.

In 1851 Moeller, of Koenigsberg, under the title of "Chronic

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Superficial Excoriation of the Tongue," described a condition of the tongue of which he had seen six cases.

Moeller's description is as follows: "Chronic excoriations occur not uncommonly on the tongue in the form of irregular, usually sharply defined, intense red spots, from which, apparently, the epithelium has desquamated or at least become greatly thinned, and in which the papillæ appear hyperæmic and swollen, and therefore somewhat elevated above the normal. Never do these areas show an abnormal secretion, nor do they develop an ulceration. They show only slight tendency to extend laterally, but persist in the same size and form in spite of all forms of treatment."

The disease occurs principally on the tip and borders of the tongue, sometimes on the under surface, and inside of the lips. He had never seen the posterior part of the mouth affected. The excoriations cause a very severe burning sensation, which, in spite of a good appetite, renders eating of all foods, even the mildest, almost impossible. The sense of taste is dulled, and the articulatory movements of the tongue are, at times, somewhat painful.

During the past year the writer has seen two well marked examples of this condition.

The following case, referred to me by Dr. Charles Frazier, of Chicago, was shown as a case for diagnosis at the Chicago meeting of this Association. Dr. Arndt, of Berlin, recognized the condition, and I have him to thank for the diagnosis.

CASE REPORTS.

Mrs. W., aged 66 years, was married and the mother of six children, three of whom are still living and well; two died in infancy and one of septicæmia, following an infection of the finger.

The family history is without significance.

The patient is a phlegmatic, well-developed but poorly nourished German woman, who has always been robust. She suffered from some uterine trouble at 40 years of age, and at 59 had what was called malaria.

PRESENT HISTORY. Six years ago the present trouble started as a pinhead-sized red spot on the tip of the tongue; this gradually spread, until now it involves practically the whole of the tongue anterior to the circumvallate papillæ, and at times the mucosa of the lips, mouth and larynx.

The eruption on the tongue is seen to consist of irregular, beefy-red areas, the fungiform papillæ of which seem to be swollen and elongated and can be separated from each other as can sealskin fur. The filiform papillæ are absent, or so short as not to be seen. There is no ulceration, bleeding or discharge of any kind. These red areas are extremely sensitive to stimuli of all kinds; changes of temperature, salty, acid or spiced foods or even slight pressure cause extreme burning and pain, which has a tendency to radiate toward the ear. Most of the time since the onset the patient has been unable to eat solid food. For the last three years she has been unable to wear her artificial teeth on account of the pain when the tongue came in contact with them. The condition

has been so severe as to interfere with nutrition and the patient has lost over sixty pounds.

Surrounding and between the red areas the mucosa is smooth, of an opalescent color, and it is difficult to distinguish any papillæ of either kind. These areas are not sensitive.

The location of the areas change from time to time, so that it seems that the red areas become white and the white ones red. However, this transformation is not absolute, some areas seeming not to change at the time others do, so a great variety of appearances is produced, as is shown by the series of photographs. For short intervals the patient says the tongue may be nearly normal. One such interval, while the patient has been under my observation, was of about a month's duration. The appearance of the tongue at that time was nearly normal, except that the color was paler and the surface somewhat smoother than normally. This was the only time during a year's observation that the condition at all approached the normal. During this intermission eating was comparatively comfortable.

The condition has extended to the inside of the lips, cheeks, gums and hard palate, and the patient thinks the throat is affected. The mucosæ of the eyes, rectum and vagina are normal both subjectively and objectively.

Dr. Robert Sonnenschein kindly undertook the examination of the nose and throat, and I am under obligations to him for the following report:

Nose. The mucosa is rather dry and somewhat glazed. The middle turbinates are somewhat enlarged, especially the right. There is some crusting on the middle turbinate. There are some small erosions in the left atrium naris, and a small polyp high up in the right middle meatus.

NASO-PHARYNX. The mucosa is pale, but otherwise negative.

MOUTH. The tongue shows peculiar red areas; fimbriæ are thickened. The hard palate and buccal mucosa show red areas with white centres.

LARYNX AND TRACHEA. The mucosa is rather pale. No areas are seen such as were noted on the tongue.

EYES. Some nystagmus with the eyes in extreme lateral position.

EARS. The drum heads are cloudy and retracted.

June 8, 1914. Upper edge of epiglottis shows small red areas.

July 2, 1914. Small red patches on each arytenoid cartilage.

July 27, 1914. Tongue, buccal mucosa, pharynx and larynx negative.

Aug. 17, 1914. Patches have reappeared on the tongue and in the arytenoid region.

Aug. 27, 1914. After entire freedom from lesions, some red areas have reappeared on the tip and sides of the tongue.

Sept. 4, 1914. Patches have reappeared on the dorsum of the tongue and in the arytenoid region.

Sept. 29, 1914. Patches on the left side and base of the tongue and on the soft palate. Larynx is clear.

Oct. 24, 1914. Patches are present on the tongue, palate and buccal mucosa.

Dec. 1, 1914. Same as Oct. 24, plus some patches in the interarytenoid space.

The patient feels perfectly well except for weakness and the condition of the mouth. The appetite is poor and the bowels are constipated. She sleeps well and the mental condition is excellent. The musculature is flabby, the panniculus adiposus, while well developed, shows that there has evidently been a marked loss of weight.

Blood examination shows:

Red blood cells	4,100,000
White blood cells	8,400
Hæmoglobin	70%
	(Dare)

Differential count shows nothing abnormal.

The Wassermann reaction is negative.

The urine is normal except for a marked indicanuria. At one time the patient showed an evanescent albuminuria.

Repeated examination of the *fæces* showed no tapeworm segments or ova. The saliva has always been alkaline, and microscopically the only change noted was a rather large number of nucleated squamous cells.

The treatment was directed toward the general condition by regulating and increasing the diet and combating the constipation and indicanuria.

In view of the fact that the tongue had previously been cauterized with silver nitrate and chromic acid, all of which had been without effect, the local treatment consisted in mild, antiseptic, alkaline and astringent mouth washes, none of which gave any consistent relief.

The second case, which was not as severe, was referred to me by Dr. W. E. O'Neill, of Evanston. The history is as follows:

Mrs. F., aged 52 years, multipara. For four months she has complained of soreness, burning, smarting and itching of the tongue, especially the tip and dorsum and to a less extent of the edges, also of the inner side of the lower lip and parts of the roof of the mouth. The condition interferes with eating, in that solid food is painful, while acids and spiced foods cause severe pain. On account of the pain on eating the patient has been living on liquid and semi-solid foods. The appetite is poor, and she has always suffered from constipation.

EXAMINATION. The patient is a fairly well developed, poorly nourished woman.

The chest and abdominal organs are normal, but the teeth are in a wretched condition, many gone, the remainder mostly decayed, and the gums showing a marked gingivitis.

The dorsum of the tongue shows irregular deep red and lighter areas; the latter are smoother and the papillæ are obscured. The red areas are intensely red, the fungiform papillæ are swollen and more distinct than normal. These areas are the sensitive ones. There is no ulceration nor has there ever been any bleeding. The inside of the lip is smooth and intensely red. The mucosa of the hard and soft palate appears normal. The condition has periods of greater and less intensity.

The blood was negative except for a moderate secondary *anæmia*.

The Wassermann reaction was negative. The urine was negative except for a marked indicanuria. The *fæces* were examined twice without finding any tapeworm segments or ova.

The patient was advised to have the teeth taken care of, but for financial reasons it has not been done. The general treatment consisted in hygienic and dietetic measures, regulation of the bowels and mild, astringent, antiseptic mouth washes, of which 1% zinc sulphate seemed to be the most efficacious. There has been some improvement, but taking of solid food is still disagreeable.

The patient lived out of town, and I have been unable to follow the case as closely as I would wish.

Unfortunately, I have been unable to obtain a biopsy in either case.

REVIEW OF THE LITERATURE.

A rather complete review of the literature shows that outside of Germany, Moeller's glossitis has not received the attention it would

seem to deserve. In part, this is due, we believe, to the fact that the condition is not common, but in greater part to the fact that it has been confused with other eruptions on the tongue. In fact, after Moeller's description, the condition remained unreported, if not unrecognized, until resurrected by Michelson, in 1890.

Moeller saw six cases, all in women of middle age. In all, the disease had lasted a long time and was very resistant to treatment. Five of the cases were affected with *bothriocephalus latus*. One patient had suffered for a long time with diarrhœa, bloody stools, and tenderness of the abdomen. Another case had gastrodynia, vomiting, vertigo and weakness. In two other cases the tongue condition was the principal complaint. Another case was anæmic on account of a severe menorrhagia and leucorrhœa. He refers to two of his cases as having recovered from the tongue affection.

Henoch speaks of having seen cases of the disease, but gives no details.

Michelson's three cases are reported in sufficient detail to merit quoting at length; and, to establish the clinical picture, we will also give a brief history of the reported cases.

CASE 1. A woman, 28 years old, had suffered for four years with diarrhœa, cough and emaciation. She complained of a burning sensation in the anterior part of the tongue, which was constant and moderate in grade, but increased so much on eating compact or seasoned food as to be unbearable.

In the middle of the dorsum of the tongue is seen a red streak in the form of a W. The slightly convex external limbs are 22 mm. long; the width varies from 2.5 to 5 mm. The juncture of the inner limbs is about the middle of the tongue. This area is sharply demarcated from the surrounding areas by its intense red color. It is not swollen, but shows a number of swollen papillæ. About parallel to this red area is another similar area, the external borders of which are formed by the borders of the tongue. The inner limbs of this second area do not meet acutely, but form a flat arch. In the non-hyperæmic part swollen papillæ are also seen. There is also an irregular streaked and spotted appearance on the under surface of the tip of the tongue.

The remaining mucosa of the mouth is of a whitish-red appearance and covered with apparently normal epithelium. The vessels at the base of the tongue are somewhat dilated. Diminution in the sense of taste is not demonstrable.

Examination of the fæces showed *bothriocephalus* eggs.

CASE 2. Man, 33 years old. Two years previously, while recovering from an unknown illness, he noticed a burning pain in his mouth after eating, also red spots. He suffered from nausea and constipation and had lost weight. On the surface of the tongue, lower lip and soft palate, as well as on the cheek, were various sized pale red spots, some round, some linear. They were neither elevated nor depressed, nor were the papillæ enlarged. These red spots were very sensitive to touch, and after chewing hard food they became redder. There was a distinct diminution in the sense of taste, not only in the red areas, but also in the normal areas. There was no evidence of intestinal parasites.

CASE 3. Woman, 45 years old; for six months she had complained of burning in the tongue, which was particularly severe, "like fire," especially when eating

hard or seasoned food. She noticed that when the pain was most intense there were red spots on the tongue.

In the middle of the dorsum as well as on the tip and edges were irregular red patches, in which the papillæ were swollen, and did not show the milk-white surface epithelium, which the rest of the tongue showed. These red areas appeared drier, as though lacquered. There was no change in the mucosa of the rest of the mouth. The sense of taste was not tested. One year before the onset the patient had had a tapeworm.

Stimulated by Michelson's report, Joseph, in 1891, reported the case of a woman, 33 years old, who, two and a half years previously, after a meal of highly seasoned food, developed a burning of the tongue. This had persisted and was especially noticeable after eating. Movement of the tongue also was painful and prolonged talking was difficult on account of the severe pain it produced.

The patient was a well-nourished woman, evidently hysterical, and had suffered from occasional gastric pain and headache. The bowels were sluggish. The tongue was somewhat swollen, although there were no impressions of the teeth. The surface was reddened and covered with deep fissures, the papillæ somewhat swollen. The borders and tip were an intense red and on the under surface, on the left side, was a red stripe. The posterior part of the tongue was paler, the circumvallate papillæ were distinctly enlarged, but not tender. The mucosa of the palate, pharynx and larynx was normal. The saliva was alkaline and microscopic examination showed nothing abnormal. No change in the sense of taste was demonstrable.

Thirteen years later Joseph demonstrated the case again; thus the disease had lasted fifteen and a half years, in spite of local treatment with lactic and chromic acids, silver nitrate, papain, etc. At this time Joseph mentions having seen a man, 41 years of age, with a similar condition of one and a half years' duration. The patient also had a bilateral ulerythema ophryogenes, which Joseph thinks may or may not have some connection with the condition of the tongue. Unfortunately, there are no details given as to the location or appearance of the lesions.

In 1893 Hahn reported the case of a woman, 25 years old, who for over a year had had a burning sensation of the tongue, especially on the posterior part of the left side, which soon spread to the tip and the right side, and became of a sticking character. Hot food and talking especially caused severe exacerbations. The pain was not continuous, but would come and go suddenly. The region of the circumvallate papillæ was intensely red and the papillæ were swollen, but not tender; there was no ulceration. At the tip of the

tongue, the right border for a distance of 4 cm. was reddened, and to a less degree the left border. The redness gradually faded into the normal mucosa. These red areas had a stippled appearance, due to the intense red color of the swollen papillæ.

The patient had poor teeth and suffered from constipation, gastrointestinal disturbances and melancholia. No evidence of parasites was found, even after treatment for the same.

The condition was very resistant to treatment.

In 1893 Preuss reported the case of a woman, 43 years of age, of nervous temperament, who had suffered from very severe burning pain in the tongue. The pain was constant, but much more severe on eating, and especially when partaking of acid, hard or seasoned food, or even when subjected to changes of temperature. The pain was principally in the tip and edges. The tongue was slightly swollen; in the front it was of an intense red color, with swollen papillæ. On the dorsal surface were many fissures. On the under surface, near the tip, a bright red area, about 2 cm. in diameter, was especially painful. The tongue and mouth were normally moist and the rest of the mucous membrane was normal. The circumvallate papillæ were normal. This case recovered and showed no recurrence during one year it was under observation.

In 1896 Polyak reported four cases. A brief abstract of these is as follows:

CASE 1. Woman, 42 years old. For years she had suffered from constipation and poor appetite. For a year the tongue had been sensitive on eating. A few days after the onset red spots appeared, which were spontaneously painful, but especially so on contact; the pain, which was of a burning character, was unbearable on eating seasoned or hard food. About the middle of the dorsum of the tongue, symmetrically on both sides, were sharply circumscribed, oval spots, about 2 cm. long and 1 cm. wide, neither elevated nor depressed. They were intensely red, smooth, shiny, somewhat dry and free of any secretion.

The filiform papillæ were thinned, the fungiform papillæ were swollen and the tips bare of the surface epithelium. These red areas were very sensitive to contact; on chewing compact food they became distinctly redder and elevated. Changes in taste were not demonstrable, the severe pain accounting for the patient's complaint in this regard.

The condition at times would show improvement, but never disappeared. The case was followed for a year.

CASE 2. Male, 38 years old. For six months he had complained of severe burning in the tongue on eating and smoking. The pain increased in severity until the patient could take only milk. The abdomen was somewhat tender and there had been occasional diarrhœa.

On the dorsum of the tongue, in the median line, is a spot neither elevated nor depressed, about 5 cm. long and 1½ cm. wide posteriorly, but becoming narrower as it extended to the tip of the organ. It is red, smooth, shiny, and somewhat dry. The fungiform papillæ are somewhat swollen and the stratum corneum is absent.

On the under surface of the right side is a spot $\frac{1}{2}$ cm. in diameter, and on the left side one bean-sized. Both are intensely red, with thinned epithelium. There is no change in the sense of taste. The further course of this case could not be followed.

CASE 3. Woman, 39 years old; she had suffered with digestive disturbances, poor appetite and constipation. For three years she had had severe burning pain in the whole tongue, often spontaneously, but especially on eating. When eating acid or seasoned food, the pain was unbearable. For the same length of time red spots had been present, which at times have become paler and then less painful. After eating, the spots became redder; they were also redder and more painful at the menstrual periods. At these times there were a vesicular eruption on the lips which healed in a few days. At times the red spots appeared on the mucous membrane of the cheeks, but they disappeared rapidly.

There was a diminution in the sense of taste.

In the middle of the dorsum of the tongue on either side were bean-sized red spots, and farther anteriorly, likewise symmetrically placed, was one pea-sized, and also on the tip, one pea-sized lesion. They were bright red, smooth, glistening, and rather dry, elevated plaques, which were sensitive to contact. The fungiform papillæ were swollen and the horny epidermis was desquamated. The sense of taste was normal. There was a herpes on the upper lip. One year later the condition was still present.

CASE 4. Woman, 32 years old; she had suffered from nervousness, dyspepsia and constipation. For four years, without cause and at irregular intervals, sensitive red spots would appear on the tongue which, after a variable length of time, would disappear. In the middle of the dorsum of the tongue was an oval, pea-sized, sharply defined, red spot, and on the tip of the tongue a similar spot. They were neither elevated nor depressed, had a smooth, glistening surface, and were spontaneously and by pressure painful, also sensitive to heat and cold. The sense of taste was diminished. The condition resisted treatment.

In THE JOURNAL for 1902, Reichman reports a case as Moeller's glossitis. It was in a girl 18 years old. The lesions consisted of lentil-sized papules on the tongue, lips and cheeks which had been present three years. The only similarity to the condition described by Moeller was the pain on eating hot or seasoned food. Microscopic examination showed an enormous round cell infiltration of the corium. The case evidently does not belong to the group we are considering, but was possibly a case of lichen planus. The patient recovered under arsenic and iron.

In 1904 Wex reported an instance of Moeller's glossitis. The case was in a woman (age not given) who, for five years, had had circumscribed swellings, the size of a hemp seed, on the dorsum of the tongue. At first they were of a red color, but in the course of six to eight days became white and opaque. The neighborhood of the papules was diffusely red and swollen, but to a less degree. Four weeks later a similar condition gradually developed on the borders of the tongue, especially the right, where the lesions became bean-sized. During the course of some months the consistency of these areas increased. Some of these thickened areas desquamated, leaving

pea-sized excoriations. When these formed, the surrounding areas became more inflammatory and swelled sufficiently to cause impressions of the teeth to form on the tongue. While the previous condition caused severe burning, the diseased areas, when they became excoriated, caused such severe pain that the patient could take only liquid food. The process, after persisting for weeks, would improve, but this improvement was only temporary.

The description of this case differs from the group we are considering in so many respects that it is very doubtful whether it should be considered as a case of Moeller's glossitis. The prominent feature in Wex's case would seem to be a hyperkeratosis, with increased consistence. Whereas in Moeller's disease, the prominent feature is thinning of the epidermis.

The two cases reported here, with those from the literature which have been considered above, and another reported by Goodale, of Boston, which will be considered later, make a group of twenty cases, all showing a well defined symptom complex. To make a complete picture, we would say that Moeller's glossitis is an affection of the tongue occurring in middle-aged adults, principally women, and affecting especially the tip and edges, but also the dorsum of the tongue; but at times also the inside of the lips, cheek, hard and soft palate, and characterized subjectively by a sensation of burning pain, and objectively by the presence of intensely red, sharply defined, irregular patches, in which the filiform papillæ are thinned or absent, the fungiform papillæ are swollen, and the stratum corneum desquamated. The condition shows periods of exacerbation and lessened intensity, but is very resistant to treatment, and tends to persist. The severe pain caused by eating interferes with nutrition and may lead to grave consequences.

It would seem that a condition with such a well-marked symptomatology should be well known. On the contrary, most of the books on diseases of the mouth to which we have had access either ignore the subject entirely, or confuse it with various other conditions, such as lingua geographica, neuralgia or glossodynia exfoliativa, as described by Kaposi, and to which we shall return later.

Mikulicz's excellent atlas has a picture of Michelson's first case.

The recent atlas of Zinsser does not mention the disease. The earlier editions of Butlin are silent on the subject and in the edition of 1900 he confuses it with geographical tongue. Goodale, in 1896, in an extensive article published in the *American Journal of the Medical Sciences*, says the condition is identical with wandering rash or geographical tongue.

Goodale's second case is manifestly a case of Moeller's glossitis, as will be seen by the following clinical history:

A woman, aged 49 years, had complained of soreness of the tongue, with neuralgic pains, excited by hot or irritating food, coming on five months before and increasing since, although varying in intensity. The condition was aggravated by irritating ingesta, and attended by the presence of whitish lines and raw patches on the tongue.

On the dorsum, just in front of the circumvallate papillæ, were two conspicuous areas, reddened and smooth, containing reddened fungiform papillæ, but denuded of filiform papillæ, except for the merest stumplike vestiges. Each area for half its circumference was bounded by a narrow, slightly elevated, whitish line of swollen papillæ, and for the remaining half of its circumference exhibited a gradual transition to normal tissue.

Anteriorly, on the dorsum, the left side was occupied by a sharply defined area of elongated oval shape, distinguished from the neighboring normal tissues by its redder coloration, by the presence of numerous irregular furrows and wrinkles, and by an alteration in both forms of the papillæ, the filiform appearing shortened, thickened and reddened, the fungiform also reddened and symmetrically increased in size. Traversing this area, generally at right angles to its long diameter, were several irregular, curved, whitish lines, seen on close inspection to consist of one or two rows of markedly enlarged papillæ, each papilla covered by a thin whitish layer, removable by gentle scraping. Immediately behind the concavity of each curved line the papillæ appeared more swollen and brightly reddened than those adjoining the convexity, suggesting very directly that the process traveled in the direction of the convexity. We shall refer to this case again when discussing the question of diagnosis.

ÆTIOLOGY. The cause of this condition is absolutely unknown. There are, however, several factors that may have some bearing on this question.

AGE. It is distinctly an affection of middle life. The extremes being 66 years in one of our cases and 25 years in Hahn's case.

Moeller says all of his cases were in middle life. In one of Joseph's cases the age is not given, but in those in which the age is given the incidence by decades is as follows:

3rd decade	2 cases.
4th "	5 "
5th "	4 "
6th "	1 case.
7th "	1 "

SEX. With three exceptions, all the cases were in the female sex. This striking discrepancy suggests that possibly disorders peculiar to the female sex might play a part in the causation. However, in only three cases were such disorders noted.

GASTROINTESTINAL TRACT. As is well recognized, the condition of the gastrointestinal tract exerts a marked influence on the epithelial coating of the tongue. In nine cases it was noted that the

patients had suffered from digestive disturbances. Bowel disorder was present in eleven cases. (Nine of these complained of constipation and two of diarrhœa.) It is a question whether this might not be explained as due to the fact that constipation is a very common complaint of women. It is interesting here to note, that of the three males, only one complained of constipation.

A factor that seemed of some significance in the early cases was the question of tapeworm. Five of Moeller's cases were thus affected.

Since then the condition has been recorded in only two cases. From this it would seem that the association was purely coincidental.

TEETH. Hahn called attention to the possible influence of carious teeth. Since then they have been recorded as present in four cases. In our series, CASE 1 had had all her teeth removed before the onset of the trouble. In CASE 2 the condition of the teeth was such that it might be held to blame for almost any disturbance.

After considering all the ætiologic factors possible in the production of chronic exfoliative glossitis, we must admit that we are no nearer its cause than we are to the cause of some of the chronic exfoliative dermatoses. Right here we might remark that in only two cases is an associated skin disease recorded. One of Polyak's had a recurrent herpes labialis, and one of Joseph's an ulerythema op hryogenes.

PATHOLOGY. Unfortunately, we know but little more of the histopathology than we do of the causes. Michelson studied sections of his first case (unfortunately they were made from the under surface of the tongue, and thus did not show the changes in the papillæ); the tunica propria and the upper part of the submucosa was filled with a small cell infiltration which was more marked in the centre; over this the epithelium was absent. On the rest of the specimen the epithelium was thinned.

Gram's and Weigert's stains showed no bacteria.

The pathological report on a section of Goodale's case is as follows:

The alterations forming the microscopic margin of the process consist in a sharply circumscribed, compact aggregation of polynuclear leucocytes in the upper layers of the rete mucosum, exhibiting a progress in the direction of the normal tissue, as a narrow, cuneiform prolongation beneath the epithelium, the infiltration at the seat of its greatest intensity being attended by a separation and exfoliation of epithelial cells, so that leucocytes are seen escaping from the denuded surface of the rete mucosum. At the same time the tissue cells of the affected area appear swollen and stand apart with intervening deficiencies suggesting an exudate, while their nuclei stain faintly. Behind the point of exfoliation the infiltration rapidly subsides and the tissue cells resume their customary appearance, while the microscopically reddened surface is seen to have retained

only the lower two or three layers of its epithelial cells. The leucocytes are seen to occur in a scattering fashion, as far as the submucosa.

This is very meagre data from which to establish the pathogenesis of the process, but considering the clinical appearance and the pathology of the analogous conditions on the skin, we might assume that for some reason there is an inflammatory process in the corium or submucosa, which is followed by œdema and cellular infiltration of the epidermis, resulting in a parakeratosis and exfoliation of the bulk of the rete. Moeller saw the epithelium reform over the desquamated area and we have made the same observation. A study of the series of photographs of Case 1 shows that the dark areas of one picture have become the light areas in a subsequent one.

This exfoliation of the bulk of the rete leaves the nerve endings covered by only a thin layer of epidermis. The proximity of the nerve terminals to the surface would tend to intensify enormously peripheral irritations, and the absence of the stratum corneum and the attendant congestion of the vessels of the submucosa would account for the intense red color.

SYMPTOMATOLOGY.

When we analyze the symptoms as given by the various observers, we find that the subjective symptoms are the same in all cases. That is, a burning pain, always more intense on irritation, such as a change of temperature, contact with acid, seasoned or salty food, or even mere pressure against the teeth or gums. Some of the patients describe the pain as radiating toward the ear, others again describe an itching sensation. The pain varies in degree from a mere discomfort to an intensity that makes eating almost unbearable and interferes seriously with nutrition. In none of the cases is it recorded as interfering with sleep.

As was easily demonstrated in our cases, the red, desquamated areas were the sites of the pain, and when the epithelium reformed the areas ceased to be painful. One cannot help but note the marked similarity between the pain of Moeller's glossitis and that of a second degree burn from which the raised epidermis has been removed.

The sense of taste was reported on in fifteen cases; in three it was given as normal and in twelve as diminished. Moeller noted a decrease in all of his cases, but uses the term *übertaübt*, and it is easily conceivable that the severe pain might mask the gustatory sensations.

On the other hand, one can well imagine that a chronic inflammation of the upper part of the submucosa, such as is present here, might result in injury to the specialized terminals of the gustatory nerve.

In Case 1 of our series, the decrease could be readily demonstrated.

In Case 2, the condition was not investigated.

If the appetite is at all affected, it is probably due to the monotonous diet to which these patients are confined and also to the fear of eating.

The condition of the nervous system is important in that some observers, notably Goodale and Kaposi, believed a hysterical or hypochondriacal element to be the important factor in the production of the pain. While it must be admitted that a large proportion of the cases were accompanied by nervous symptoms of one kind or another, still it would not be strange if a condition as resistant as the one under discussion and which removes so much of the joy of living did not cause the patient to become melancholic or hypochondriacal. Joseph believes the nervous manifestations to be secondary, and certainly in our cases they could be considered in no other way.

OBJECTIVE SYMPTOMS. The shape, size and location of the diseased areas vary greatly in the different cases, and, as is seen by the photographs, even in the same case.

There is, however, a marked predisposition to affect the part of the tongue in front of the circumvallate papillæ. It has never been described in the back of the mouth. As Moeller pointed out, the tip and borders are the points of predilection.

Moeller did not report his cases in detail, but in twelve of the cases reported since, the location was as follows:

Tip	9 cases.
Edge	6 "
Dorsum	10 "
Under surface	4 "
Lip	2 "
Palate	2 "
Cheeks	2 "
Gums	1 case.

Moeller referred to the fact that the patches show no tendency to extend along the surface; and after a patch once occurred, we could never observe any tendency to extend peripherally; although, if we had been able to examine the patients at more frequent intervals, such an extension might have been noticed.

After a patch has developed it changes very slowly. We have seen patches remain unchanged for several months; on the other hand a patch may last only a few weeks. The change, however, is never nearly as rapid as is seen in *lingua geographica*. There may be intervals of complete absence of lesions with comparative comfort to the patient. The longest interval observed in CASE 1 was one month. In CASE 2, the condition has never completely disappeared, although there have been periods of improvement.

The color of the diseased areas is always described as an intense red. Some observers have noted that after eating, the color becomes more intense, and at these times there is a slight elevation noticeable. As a general thing, the lesions are neither elevated nor depressed.

In sixteen cases the fungiform papillæ are described as swollen. In one case of Michelson's, they were not swollen and Polyak does not give the condition in one of his cases.

The swelling has probably no special significance and can be explained as possibly the result of the congestion and infiltration of the submucosa.

In both our cases this swollen condition of the fungiform papillæ was very noticeable and gave the surface a stippled appearance.

The filiform papillæ in our cases were noticeably thinned or wanting. The absence of these filiform papillæ tended to isolate the fungiform and exaggerate their swollen condition.

Moeller remarked the absence of ulceration and abnormal secretions and they have not been noticed in any of the later cases. There is no scarring and judging by our Case 1, the only change in the tongue is a slight tendency to hyperkeratosis, which shows clinically as a slight opalescence of the mucosa, and is not sufficient to change the consistency in the least. It does, however, give the surface a smoother appearance than normal.

DIAGNOSIS. The clinical picture of Moeller's glossitis is so well marked, that it seems there should be no difficulty in making the diagnosis.

It must be differentiated from the various lingual conditions accompanied by pain. Among these are lingual neuralgia, which is usually unilateral, the pain is lancinating and paroxysmal in character, and there is tenderness of the lingual nerve.

Albert describes several cases with pain in the tongue due to a papilloma or hypertrophy of one of the circumvallate papillæ. Here the growth can be seen and demonstrated to be the cause of the pain. Degle has reported a similar case.

Following Albert, Kaposi reported a series of cases under the

title of glossodynia exfoliativa, characterized by persistent pain in the tongue, accompanied by slight or hardly noticeable anatomic changes in the organ. From his general description we must conclude that at least most of Kaposi's cases were examples of lingua geographica. The cases are not reported in sufficient detail to enable us to decide whether or not any of them were examples of Moeller's glossitis.

Bernhardt reports four cases of a neurosis of the tongue characterized by prickling and burning, especially on the tips and sides, occurring in attacks and interfering with sleep. The mucosa of the tongue was apparently normal in all cases. He refers to the fact that Verneuil and others have reported cases of imaginary ulceration of the tongue and that Fournier and Labbe say the cases are not uncommon, and these symptoms are often premonitory signs of tabes or paresis.

In 1893, under the title of papillitis lingualis, Duplaix described a condition, the symptomatology of which is strikingly similar to Moeller's glossitis.

The disease occurs only in strong, healthy persons. They complain only of one thing: pain in the tongue. This pain is always located in the anterior two-thirds and more particularly on the tip and borders. It is less marked on the dorsum and may be absent here entirely. The sensations vary greatly. Some patients complain of severe, constant and persistent burning, others describe it as lancinating, in others it occurs in paroxysms of a neuralgic character. Sometimes the paroxysms occur so frequently that by night or day the patient has no relief. This is not common; in most of the cases the attacks are numerous but less painful. Commonly, however, the sensation of severe burning is so persistent that for days or even weeks, the patient has not a minute's freedom.

The severity of the pain is different in each case and changes when the tongue comes in contact with compact or liquid food, becoming so much more intense that the patient dreads to eat. Sometimes only wine, spices and acids cause the increased severity. In other cases liquid, or compact food of all kinds, causes unbearable pain. Milk and soup are usually well borne, especially when taken at a certain temperature. Cold foods are more irritating than hot, but there are exceptions to this. The pain is so severe and resistant that the patients often become hypochondriacal.

This is the only symptom the patient complains of. There is no disturbance of taste or salivary secretions. There is no pain on speaking and the sensibility of the tongue is normal.

PLATE XLIV.—To Illustrate Article on Moeller's Glossitis,
by FREDERICK G. HARRIS, M.D.



Fig. 1.
Case No. 1.



Fig. 2.
Case No. 1. Two
months later.



Fig. 3.
Case No. 1. Some
months later.

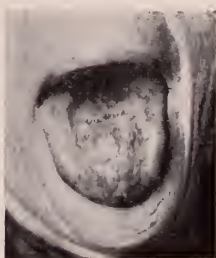


Fig. 4.
Case No. 2.

Macroscopic examination of the tongue shows nothing abnormal. With a lens, however, one can find the cause of the pain.

In certain places, especially the tips and borders, one sees small points of intense red, as if a small piece of the mucous membrane had been punched out. These small points are visible only with the lens and are hidden in the folds of the mucosa. Touching these points lightly with a probe causes intense pain which may last for some time.

The more severe the pain, the more numerous these points are. Duplaix was able to demonstrate that these red, painful points correspond to filiform papillæ from which the epidermis had desquamated. Gazzolo and Wex have substantiated Duplaix's findings.

From the above description it will be seen that the subjective symptoms simulate very closely those of Moeller's glossitis. The objective symptoms, however, are very different. Both are characterized by an exfoliative condition of the tongue. Duplaix's involves the individual papillæ, while Moeller's involves large areas of the tongue as well as other parts of the mouth.

Strange to say, the lingual condition which has been confused most often is geographical tongue. This well known condition, described first by Betz, is often used synonymously with Moeller's glossitis. Butlin so uses it, and, referring to Moeller's glossitis, says that the condition was well recognized by the older French authors, probably meaning Rayer, who, under the title of pityriasis lingua, described an exfoliative condition of the posterior third of the tongue. Hack also is in error in considering the two conditions as identical.

Goodale, in his extensive article referred to above, the title of which was, "On the Identity of the Conditions Commonly Known as Wandering Rash of the Tongue and Moeller's Superficial Glossitis," describes six cases of geographical tongue. His Case 2, as we have said before, most certainly was an example of Moeller's glossitis. In spite of the many differences in the clinical history, but because the microscopic findings were so like those found in the cases of lingua geographica and in Moeller's disease as described by Michelson, Goodale considered the conditions to be identical and he attributed the severe subjective symptoms of Moeller's disease to the fact that the patients were of a nervous type.

Until we know more of the pathology of the various desquamative conditions affecting the tongue, the histological picture is not a proper criterion by which to judge a case. One has but to think how very difficult it would be to differentiate various well known skin conditions on the histopathological findings alone.

The various syphilitic affections of the tongue, such as mucous

patches and leucoplakia should cause no difficulty in diagnosis to one familiar with the clinical picture of Moeller's glossitis. However, both of our cases were referred to us as probable cases of syphilis.

PROGNOSIS. Although Moeller does not give the duration of the disease, he says it is very resistant to treatment.

In thirteen cases where the duration is given, it is recorded as follows:

3 cases	.....	1½ years.
3 "	.....	1 year.
1 case	.....	2 years.
2 cases	.....	3 "
2 "	.....	4 "
1 case	.....	6 "
1 "	.....	15½ "

Until we are better informed as to the ætiology of the condition we shall have to admit that the outlook is not favorable.

Of the twenty cases in only three is recovery recorded.

TREATMENT. The treatment is entirely unsatisfactory. Cauterization with lactic and chromic acids and silver nitrate has been without results.

Astringent and antiseptic mouth washes also have been futile.

Improvement or cure had been recorded in a few cases after anthelmintic treatment. In one case of Moeller's, the glossitis got well, although the parasites persisted in the intestines.

Preuss' case recovered, following the use of a decoction of wortle-berry.

CONCLUSIONS.

1. The type of glossitis described by Moeller is a distinct type of inflammation of the tongue.

2. While undoubtedly uncommon, it is probably not as rare as the number of reported cases would lead one to judge.

3. The association with intestinal parasites, as reported in the early cases, would seem to be purely accidental.

4. The symptoms are so severe and the disease so intractable that the condition would seem to deserve more attention than it has received.

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DISCUSSION.

DR. FORDYCE said the members of the Association were indebted to Dr. Harris for presenting this interesting subject before them. He had seen two cases of this type of glossitis. In one of them the patient was a woman, 45 years of age, who had consulted many physicians for the condition. The pain and the annoyance attending it were so great that her general health had suffered.

DR. PUSEY said that he could affirm what Dr. Fordyce had said about the interest of this subject. He had seen the case in Chicago last year, and was sure from the perplexity of those who examined it that the condition was almost unknown to dermatologists. Certainly he himself had no knowledge of the condition until his attention was directed to it by Dr. Harris. He was convinced that the condition was a distinct clinical entity, and felt that we were indebted to Dr. Harris for bringing it to our attention.

DR. WALLHAUSER asked if there was any ulceration.

DR. HARRIS replied that there was no elevation or ulceration. It was more analogous to psoriasis on the skin leaving a very thin layer of epidermis over the lesion.

DR. WALLHAUSER said that he had seen seven or eight cases with a very peculiar hyperæsthesia, the pain beginning after breakfast and continuing throughout the day. He had noticed it for seven or eight years, and wondered whether it was the same condition.

DR. HARRIS replied that there were many conditions of painful glossitis which should be considered aside from syphilitic; one form was described by Duplaix in which there was an exfoliation of epidermis similar to that in Moeller's glossitis. About the danger of carcinoma: in none of the reports he had seen was there any suggestion of the danger of subsequent carcinomatous change. The condition was entirely different from leucoplakia, where there was hypertrophy of the epidermis, while this was an exfoliation of the epidermis. It would seem to be a vascular change.

CLINICAL REPORT.

PELLAGRA IN NEW YORK AND ITS VICINITY; WITH
REPORT OF TWO CASES.

By FRED WISE, M.D., New York,

AND

M. F. LAUTMAN, M.D., New York.

IN THE JOURNAL for May, 1915, xxxiii, No. 5, MacKee published an account of a case of pellagra in a young woman, who had, in all probability, acquired the disease in New York City. This case represented the third instance of the disease indigenous to New York State. The incidence of pellagra in this State is succinctly reviewed in MacKee's report, to which the reader is referred.

Recently an example of the malady came under our observation in the Dermatological Clinic of the Mt. Sinai Hospital and, in view of its rarity in this section of the country, is herewith submitted.

CASE REPORTS.

CASE 1. Ignatz K., 50 years old, married, a salesman by occupation, was a native of Austria and had lived in this country during the past fifteen years.

FAMILY HISTORY. His father died of old age. His mother, one brother and one sister are living and well. One brother died of cardiac disease and another from an unknown cause. There is no family history of cancer, pulmonary or renal troubles.

PAST HISTORY. The patient does not recall any of his childhood illnesses. His only serious illness was due to a gastric ulcer, for which he was operated on April 11th, 1915, by Dr. A. A. Berg. At this time, the wall of the stomach, which was the site of an ulcer about two inches in diameter, was resected and a button recto-colic jejunostomy performed. Recovery was perfect and the gastric symptoms did not recur. He has never had any skin disease and denies venereal infections. The patient has always resided in New York City, his occupation of travelling salesman of automobile supplies never taking him out of this State. With the exception of a two weeks' stay in Memphis, Tenn., six years ago, he had not been South.

As to his diet: Prior to his operation, the patient, of necessity, was very observant and careful as to what he ate. His breakfast consisted of oatmeal or corn-flakes, eggs and coffee; for dinner he took a sandwich and tea, coffee or milk; and for supper, soup, meat, potatoes, vegetables and pastry. Occasionally he partook of spaghetti and noodles and about three times a year he indulged in some corn bread. Since the operation he has eaten practically everything, although he never partook of canned or parched corn or hominy.

PRESENT ILLNESS (Sept. 7, 1915). This began about three weeks ago with attacks of diarrhœa. He had four or five dark fluid stools a day, but there was no macroscopic blood. At the same time he noticed patches of about the

size of a silver half-dollar on the dorsum of each hand, which were darker in color than the surrounding skin and "looked like a sun-burn." These patches rapidly increased in size, took on a darker hue, became covered with whitish scales and were elevated above the normal integument. There were no blisters, blebs or pustules at any time. The patient volunteered the information that he had been dull mentally for the past two weeks, which was evidenced by his lack of ambition, rapid fatigue, reluctance to approach people and absent-mindedness. Subjectively the only sensation experienced in the hands was one of heaviness and "bearing down," relieved when the hands were elevated. The only local application used was cold cream.

PHYSICAL EXAMINATION. The patient was poorly nourished and weighed only 99 pounds. His teeth were in poor condition. On the floor of the mouth there were a few whitish patches. The tongue and pharynx were clear. The thoracic and abdominal viscera, rectum and genitals showed no abnormalities and there were no indications of spinal involvement. The inguinal and axillary glands were moderately enlarged.

SKIN. The integument of the face and neck showed a deeper pigmentation than the rest of the body, but nothing abnormal. The skin of the buttocks, overlying the tuberosities of the ischium, presented slightly hyperkeratotic, brownish patches. Excepting the hands, the rest of the skin was normal in appearance and texture.

ERUPTION. The dorsum of each hand presented a uniformly copper-colored area, which was very little raised above the normal skin and was non-scaly. Scratching with the finger nail elicited a faint desquamation. The color closely simulated a patch of skin inflamed by chrysarobin inunction. The surface was smooth and a little tense. Pressure with a piece of glass caused a slight recession of the underlying erythema. The erythematous area was well defined at its edges and occupied the dorsum of each hand, from a little above the wrist joint to the first phalangeal points. The palmar surfaces were free.

Two weeks after the patient had come under our observation, the dull copper-color of the backs of the hands had given place to a dirty-brown, scaly and shrivelled appearance. The patches desquamated in fine, dry scales, in some spots leaving eczematoid areas which showed a tendency to heal spontaneously.

Examination of the blood revealed the following: Red blood cells, 2,052,000; white blood cells, 4,800; hæmoglobin, 80 per cent.; polynuclear leucocytes, 67 per cent.; lymphocytes, 33 per cent. The blood picture was that of a slight secondary anæmia. The blood pressure was 110 mm. of mercury. The urine showed nothing abnormal. Several Wassermann tests were negative.

HISTOPATHOLOGY. A small piece of skin, excised from one of the patches for microscopic study, revealed the ordinary changes common to a low grade inflammatory process.

In the epidermis, the corneous layer presented a well marked hyperkeratosis. The epithelial lamellæ were undulating and arranged in a broad band in some spots, straight and narrow in others. The horny layer was reticulated throughout its entire extent. Here and there were seen little areas with nucleated epithelial cells—areas of parakeratosis. The stratum lucidum was wanting. The granular layer consisted of from one to three layers of cells, some of them swollen and œdematous, with increase in keratohyaline. The stratum spinosum was somewhat diminished in width and presented a well-marked intracellular œdema, together with numerous mitotic figures. The basal cell layer was in some areas intact, in others the palisade cells were swollen and distorted by the œdematous process manifested here.

In the corium, the papillæ were for the most part flattened and œdematous.

The pars papillaris exhibited a moderate lymphocytic cellular infiltration, most prominent about the blood vessels, many of which were markedly dilated. Small collections of lymphocytic cells were also seen, apparently independent of the vascular structures. The collagenous tissue was quite œdematous and swollen, in some places showing a distinct granular degeneration.

In some of the sections were seen small subepidermal vesicles. The glands and hair follicles, as well as the subcutaneous tissue, were normal in appearance.

A little point of interest in connection with this patient's Hebraic origin, is the circumstance that, according to Niles (PELLAGRA, 1912, W. B. Saunders Co., Phila.) pellagra is very unusual among Jews. Niles states that he had never encountered the disease in that race and quotes Bernard Wolff, of Atlanta, who has seen but four pellagrins in Hebrews, during many years of practice in the South.

Our diagnosis of pellagra in this case is based on the "four-fold diagnostic syndrome," to wit: the cutaneous eruption, the diarrhœa, the nervous disturbances and the lack of mental equilibrium exhibited by our patient during the fortnight in which he remained under our observation.

The following case of pellagra was studied by Dr. MacKee. The patient was in St. Vincent's Hospital, New York City, in the service of Prof. George D. Stewart.

CASE 2. E. B., female; married; age, 28 years; no occupation excepting her own housework.

FAMILY HISTORY. The patient's husband, mother, father, four sisters and four brothers are living and in good health. The patient has one child, a boy 2½ years of age, who is practically healthy and well developed.

PAST HISTORY. The patient had measles, whooping cough and scarlet fever when a child. She has had occasional attacks of tonsillitis. Menstruation began at the age of 13 and has been always normal. Since childhood she has enjoyed good health and has not been afflicted with any serious disease. She never had any skin affections and denies syphilis. There were never any miscarriages.

About 18 months ago and without apparent cause, the patient gradually lost her appetite and her weight fell from 135 to 105 pounds. She developed a visible anæmia and suffered from severe headaches. Later she complained of vertigo, arthritic pain and she became irritable and nervous.

About four months ago (June, 1915) her face became swollen, especially the eyelids, nose and upper lip. The skin of the face, neck and upper part of the chest assumed a bright red hue. At the same time she noticed that her hands and fingers were also swollen and that the skin on their dorsal surfaces turned red. A little later the elbow joints became swollen and the arthritic pain was more pronounced. Then the feet and legs began to swell—the feet being enormously swollen, and muscular weakness began to develop. This last complaint increased rapidly until it became necessary to remain in bed. The skin of the feet, legs and trunk remained normal with the exception of a faint red patch here and there. In the meantime the bright red skin of the hands, forearms, neck and face became a dull red and finally a brownish red. She has suffered with alternate constipation and diarrhœa and has had considerable indigestion and abdominal pain. About a month ago she began to complain of a fullness in the throat, which became very annoying and caused some difficulty

in swallowing and speaking. Salivation was increased. She was given iron, tonic and digestive mixtures but no other medication such as silver, arsenic, mercury, etc. She has now been in bed for over two months and entered Prof. Stewart's service at St. Vincent's Hospital two weeks ago.

PRESENT CONDITION. The patient, a brunette, is of medium height and slightly emaciated.

PHYSICAL EXAMINATION. The heart, spleen, liver and lungs are normal. The urine is normal. The Wassermann reaction is negative. An examination of the blood reveals the following: Red blood cells, 3,200,000; hæmoglobin 70 per cent.; white blood cells, 14,000; differential count shows: polymorphonuclears, 85 per cent.; lymphocytes, 15 per cent. The blood pressure is: systolic, 120; diastolic, 85. The temperature ranges between 98° and 99° F. in the morning and between 99° and 100½° F. in the evening. The pulse (reclining) varies from 90 to 116. The fæces are negative for blood and parasites. A test meal shows: free acids, negative; free hydrochloric acid, negative; bile, positive; blood, negative; mucous, moderate; starch and yeast cells present.

The tonsils are swollen and the entire throat is congested and somewhat swollen. The patient has some difficulty in swallowing and speaking. The throat, however, is not painful. The feet are considerably enlarged from œdema. There is pitting on pressure over the tibiæ. The hands, also, are œdematous. The skin of the forearms and arms, especially the extensor surfaces, cannot be picked up, the sensation produced being that associated with scleroderma. This is probably due to a mild, deep-seated œdema. The face is swollen, but the œdema is most marked in the eyelids, the nose, the upper lip and just below the chin. The elbows are considerably swollen, but there is not much pain. They cannot be fully extended. Muscular weakness is marked, so much so that the patient is practically helpless. The patient is comfortable in bed, the gastrointestinal tract has appeared normal, during the stay in the hospital, but the appetite is poor. Beyond a little depression, the nervous system does not appear very abnormal. The patellar reflex is absent; there is no Babinski sign; ankle clonus is difficult to obtain on account of the œdema and pain.

DERMATOLOGICAL MANIFESTATIONS. The scalp is slightly erythematous and scaly. The forehead is a dark brown, almost black. On account of the unequal pigmentation it appears mottled. The entire face is a dark, reddish-brown color. This color extends on to the sides of the neck half way to the shoulders. On the back of the neck it extends to the seventh cervical vertebra, while in front it spreads down over the chest to a line about four inches above the nipples. The lower margin of the discoloration is sharply defined and forms a collarette around the neck extending over the upper part of the chest in a convex line, with the convexity pointing downward. Directly under the chin, where it is in constant contact with the neck, due to the flexed position of the head, there is a palm-sized area of practically normal skin. The phenomenon can be explained perhaps, by the fact that no light strikes this particular location. Over both mandibles there are streaks of well-marked erythema.

The dorsal surfaces of both hands show a light gray color. This discoloration does not end abruptly at the wrists, but extends in streaks up the extensor surfaces of the forearms and on to the arms. The pigmentation is deeper on the forearms than on the hands, is of a brown instead of a gray color and there is some mottling. The flexor surfaces are practically normal. The extensor surfaces of the upper arms are slightly erythematous and somewhat mottled—suggesting *cutis marmorata*.

The toes and plantar surfaces of the feet present a little thickening of the horny layer and a slight scaliness. The skin of the affected regions is not infiltrated and beyond that already mentioned there is no scaliness. The patient does not complain of itching but the skin is a trifle hypersensitive. The rest of the cutaneous surface is normal with the exception of a palm-sized patch

of faint erythema on the right thigh and barely perceptible erythematous patches and macules here and there on the abdomen, chest and back.

The patient was born in Oswego, N. Y., of American parents. She was never more than 50 miles from Oswego until she moved to Montclair, N. J., four years ago. During her stay in Montclair she made visits only to New York City and Oswego. Her diet always consisted of the same food as partaken by other members of the family. She is improving under the influence of absolute rest in bed, in a darkened room, a nutritious diet, digestives, iron and tonics.

It is reasonable to assume that these two cases of pellagra are autochthonous to the localities mentioned; i.e., the first originated in New York, the second probably in New Jersey. We are informed that sporadic cases of the disease are now and then encountered by practitioners in the latter state, in towns within fifty miles of New York City. Dr. Steinke, of Elizabeth, N. J., tells us that four native cases were seen in northern New Jersey within a year, all of them being indigenous.

Although the disease is unquestionably a great rarity in the local clinics and hospitals, even including the imported cases, it is probable that its incidence in this region is not as unusual as is commonly believed.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular meeting, April 20, 1915.

HANS J. SCHWARTZ, M.D., *President*.

FOUR CASES OF LUPUS ERYTHEMATOSUS CURED BY DIFFERENT METHODS OF TREATMENT. Presented by Dr. TRIMBLE.

Dr. TRIMBLE said that at a previous meeting Dr. Clark had exhibited a number of patients with erythematous lupus, treated by the Kromayer light with excellent results, and that had suggested to him the idea of presenting half a dozen patients who had been treated for this condition by other methods, also with excellent results. He had devoted a good deal of time to the study of this condition, but felt that he knew very little more about its ætiology, etc., than when he had first started, though he had learned something about its therapeutics. The point he wished to make was that many cases would recover on almost any good plan of treatment properly and constantly applied, and again others would not recover regardless of the plan of treatment selected. Dr. Clark was certainly to be congratulated on the results he had obtained, but other methods of treatment should not be overlooked nor neglected.

The first case presented had suffered from erythematous lupus for fourteen years, and required some nine months of treatment before a cure was established. She was treated with an ordinary soap liniment, and some of the deep-seated lesions with caustic paste, and showed a most satisfactory result.

PLATE XLV.—To Illustrate Article on Pellagra in New York,
by FRED WISE, M.D., and M. F. LAUTMAN, M.D.



Fig. 1.
Showing the dark-colored erythema of the backs of the hands.

PLATE XLVI.—To Illustrate Article on Pellagra in New York,
by FRED WISE, M.D., and M. F. LAUTMAN, M.D.

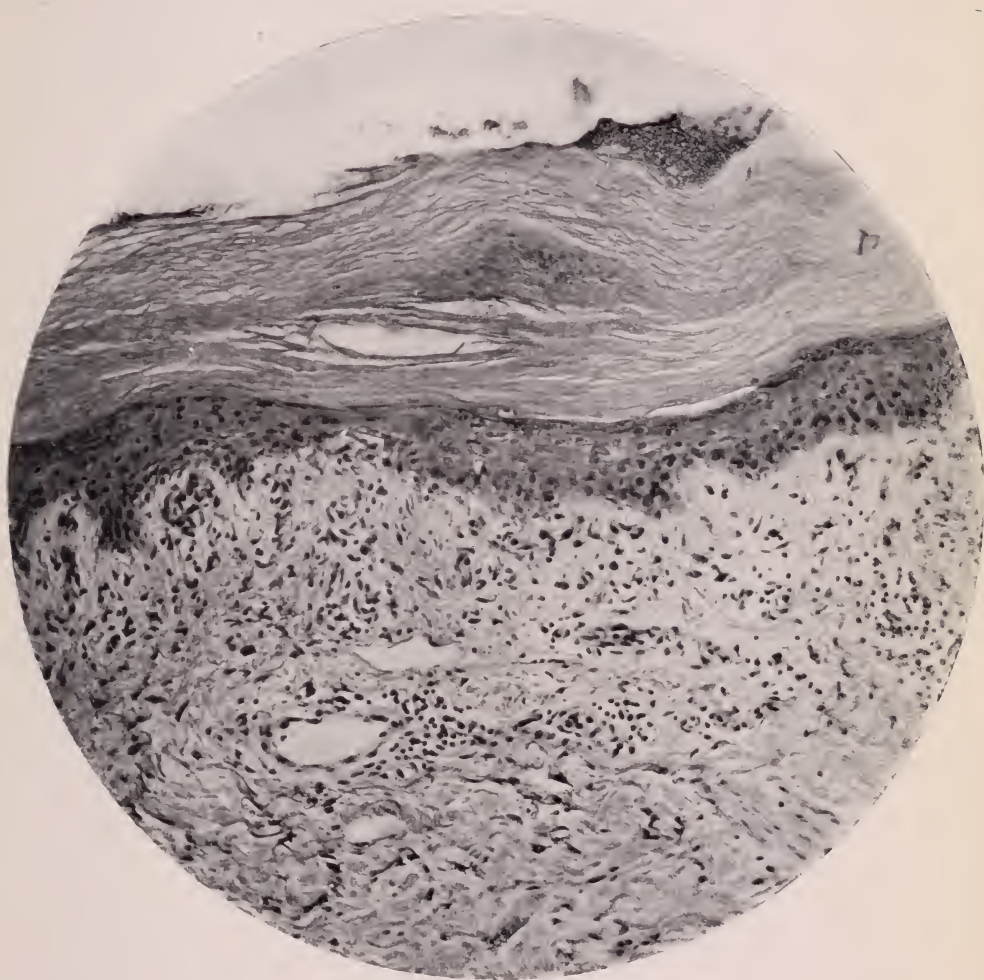


Fig. 2.

Zeiss obj. 8 mm., co. oc. 4. Showing parakeratosis, atrophy of epidermis, sub-epidermic vacuolization, and slight round cell infiltration.

The second patient had been seen before by some of the members. She was treated with iodine, painting the lesion once a day, and quinine administered internally. She also showed an excellent result.

The third case, a man, was treated with the ordinary lotio alba, and was probably the best result of all. The case was of the superficial type, however.

The fourth case was of the disseminated type. This patient showed a most excellent result from the administration of quinine, ten grains three times daily, and the external use of salicylic acid and sulphur ointment.

There were two other cases that had been instructed to come to the meeting, but did not appear. He was sorry not to be able to show them, as the results obtained were fully as good as those already shown. One was treated with CO₂ snow and a salicylic acid ointment; in the other, the lesions had been curetted and painted with pure carbolic acid.

DISCUSSION.

DR. CLARK said the results were certainly as good as could be secured by any form of treatment.

DR. POTTER asked if there were any pulmonary lesions or other tuberculous lesions in the body.

DR. FORDYCE said that the results obtained by Dr. Trimble were very satisfactory. The great difficulty in this disease was the impossibility of preventing relapses. As a result of long observation, he was firmly convinced that a certain number of cases of this disease were due to an extracutaneous tuberculous focus.

He had recently observed an extensive lupus erythematosus of the face in a patient with an apex tuberculosis of the lung, and not infrequently saw the disease associated with the scars of tuberculous lymph nodes of the neck or with an active process in the lymph nodes.

DR. MACKEE said that some of the methods of treatment mentioned by Dr. Trimble were better known by our ancestors than by us. In our enthusiasm over the results obtained by newer methods of treatment, such as the solid carbon dioxide, ultraviolet rays, radium, etc., we were overlooking the fact that good results were often obtained by very simple methods, such, for instance, as curettage, superficial caustics, chemical irritants, stimulants, astringents and emollients, Hollander's treatment, etc.

DR. HOWARD FOX said he understood that Dr. Trimble had shown these cases not with any idea of depreciating the excellent results obtained by Dr. Clark with the Kromayer lamp, but to demonstrate that good results could be secured with milder methods of treatment. He seemed to have proved his point.

DR. TRIMBLE, answering Dr. Potter, said that they had not been able to demonstrate any tuberculous lesion in any of the cases. All of the patients had been subjected to careful physical examinations, and nothing of the kind had been found. The patient with the disseminated lupus gave a positive tuberculin reaction. So far as he could judge by watching this condition carefully over a number of years, one could rarely get a positive tuberculin test in the fixed type of case, but it was quite usual to get the positive reaction in the disseminated variety. As Dr. Fox had said, these cases were not shown with any idea of disparaging the value of the Kromayer light, but simply to show that no one form of treatment would cure every case. The lesions continued to recur in a number of cases, regardless of the method of treatment. It might even be said that sometimes the treatment stirred up the condition and caused the lesions to appear elsewhere.

LUPUS VULGARIS TREATED WITH KROMAYER LIGHT. Presented by DR. CLARK.

This patient had an attack of lupus vulgaris on the buttock, the lesion being the size of a silver dollar. He had one exposure to the Kromayer light about a

year ago. When seen again, a short while ago, he had one tubercle located toward the edge of the old lesion which had not been sufficiently exposed. Another exposure was given, and the patient was presented in order to show the result, and that he might be added to the series of cases already shown. The lesion appeared entirely cured. There was a suggestion of teleangiectasia. The exposures had been very long ones—50 minutes.

DISCUSSION.

DR. MacKEE said that he had not been able to obtain such good results at Dr. Fordyce's clinic, with equally long exposures, even when the skin was dehaematised with adrenalin. There was, however, a distinct improvement in some of the cases after several very strong treatments. The reactions following these long applications were very severe and often required several weeks to heal. Dr. Clark had suggested that the discrepancy in results might be due to a clouding of the quartz tube. The test for the presence of the ultraviolet ray was the fluorescence of willemite and the lamp at the clinic responded to this test. Nevertheless, the lamp was remade, but the results did not appear to be modified.

A very interesting point in connection with Dr. Clark's cases was the teleangiectasia. It had been stated that the Kromayer lamp would not produce untoward effects, but in this instance there was a distinct vascular dilatation. The sun, possibly through its actinic and ultraviolet rays, frequently produced teleangiectasia and the speaker thought that the Kromayer lamp might do the same. Until we obtained more experience it would be well to be cautious in the treatment of benign affections, especially of the face.

DR. WISE said that it was an excellent result for lupus vulgaris. He thought that the lack of success which he and others had had was probably due to the fact that the exposures had not been sufficiently long. Fifty minutes was a rather long exposure, but the length of exposure was probably the secret of success in these treatments.

DR. TRIMBLE expressed surprise at the good results obtained in a case of lupus vulgaris with so few exposures—only two. He remembered that at the previous demonstration Dr. Clark said that quite a number of exposures were given to some of the patients with erythematous lupus, and as lupus vulgaris was so much deeper seated than lupus erythematosus, it would seem that more exposures would be required.

DR. CLARK replied that the numerous exposures had been over different areas, not in one spot.

DR. CLARK reiterated the point made when he had presented the cases before; when the arc was clouded, practically all the ultraviolet rays were intercepted; the red rays apparently were not intercepted; that seemed to be the reason why there may be a big reaction after a forty or fifty-minute exposure, and yet if one did not get the ultraviolet rays, the deep-seated results were not obtained and the lupus was little or less affected. As soon as the arc began to cloud another lamp must be used. He got no greater reaction when it was new and full of ultraviolet rays, than from a clouded lamp; but with the clouded lamp he did not get the end results that he did with a clear arc. This man had a long exposure because he was a travelling man and did not know when he could return for another treatment. That probably explained why the lesion healed under two exposures.

CASE FOR DIAGNOSIS. (BLASTOMYCOSIS?) Presented by DR. CLARK.

The patient's history, as given by himself, was that about six months ago a swelling appeared on the back of his left hand, followed by a nodule on the back of the hand, and shortly afterward by various nodules following the line of the lymphatics on the inside of the arms. He estimated that there were about thirty

of them in all. Some of them disappeared, but that on the back of the hand became enlarged and at one time was twice as large as at presentation. It was not a warty growth, as in blastomycosis. Other lesions appeared and finally produced circumscribed, raised, hard, dull red lesions. Lesions also appeared on the upper part of the arm beginning as nodules, and two developed into permanent, raised, red lesions.

When shown, the lesions were some fifty or sixty per cent. better than they were a few weeks ago. The man was a journalist and had had syphilis, and when the lesions first appeared he took iodide of potash, twenty-five grains three times a day, for two months, without any apparent effect. It was suspected that the lesion might be a sporotrichosis, but as the patient thought he had syphilis, a Wassermann test was made and showed a 4-plus reaction. One of the lesions contained pus, and a smear from that lesion showed a few vacuolated bodies, not a large spore type, with a distinct capsule, which was very suggestive of blastomycosis. An effort was made to make a culture from the material, but it did not grow on Sabouraud's acid peptone glucose media. Another smear had been taken and another effort to grow a culture would be made, to see if it would grow on carrot or potato.

The speaker said that when the patient first came with a positive Wassermann, he did not wish to give him injections, and put him on large doses of iodide of potash, 32 grains three times a day, and 2 grains of bichloride to a 3-ounce mixture, and the lesions had improved. He said that he had never seen such smooth lesions in blastomycosis, and had never seen in a syphilitic lesion such a discharge as came from the lesion on the back of the patient's hand. He presented it as a case of possible blastomycosis. The lesions were from one-half to two and one-half inches in diameter, were circumscribed, raised, smooth, dull red, granulated-like tumors and quite firm in consistency.

DISCUSSION.

DR. WINFIELD said that it looked something like blastomycosis, but more like sporotrichosis.

DR. POTTER suggested that there might be two conditions—syphilis and something else. The nodules running up under the arm looked like gummata; the condition on the wrist looked like blastomycosis. An examination of the tissue would probably disclose evidence of whether it was purely a case of syphilis, or one of syphilis plus blastomycosis.

DR. FORDYCE said that the clinical pictures suggested a sporotrichosis. The organisms in this affection were very difficult to demonstrate in sections, and cultures of the organism were not easy to obtain unless the special Sabouraud medium was used.

DR. JACKSON agreed with Dr. Fordyce that the case suggested sporotrichosis rather than blastomycosis.

DR. MACKEE agreed with Dr. Fordyce that the condition suggested sporotrichosis more than blastomycosis, but he would also seriously consider the possibility of syphilis. The speaker recalled two cases similar to Dr. Clark's case. Both patients were syphilitic and they both recovered under the influence of mercurial injections without the administration of iodine. In both instances there was a small ulcer on the hand with a chain of nodes extending up the forearm, some of which ulcerated. The speaker said that he had seen Dr. Clark's case about a month ago, when the condition was much more marked. Iodine alone had had very little if any influence upon the lesions, but since mercury had been given, the lesions had improved considerably.

DR. CLARK said that when he first saw the case it did not clinically seem like syphilis, but appeared to be a sporotrichosis. The patient had had iodide treatment, 25 grains t. i. d., for two months, and said that the lesions did not improve.

He stated that at one time there were thirty of these lesions, while usually there were four or five. Dr. Clark said that he did not feel that the peculiar definite spore bodies could be entirely disregarded. They were vacuolated, round, small spores, not like sporotrichosis, but resembled blastomycosis. The question was, did they fail to get a culture because of the amount of iodide of potash the patient had taken? He would try to have a culture made on a potato medium, and see if a sporotrichosis could be demonstrated. The case did not to him appear to be syphilis, clinically.

LUPUS ERYTHEMATOSUS DISSEMINATUS. Presented by DR. MACKEE
for DR. FORDYCE.

J. W., female, single, 30 years of age, born in the United States. Five years ago the patient had a severe attack of rheumatism, which left her hands badly crippled—a condition resembling rheumatoid arthritis. Her feet were similarly but less severely affected. There was no history of syphilis, but there was an attack of hemiplegia several years ago, from which she entirely recovered. The patient was thin and not in good general health, although the organs appeared to be normal. There was a distinct history of tuberculosis in the patient's immediate family. The Wassermann reaction was negative (?). There were sharply margined, bright-red lesions occupying the forehead, nose, cheeks, chin and anterior surface of the neck. The skin in the affected area was slightly infiltrated, teleangiectatic and slightly atrophic, and covered with firmly adherent scales. There was a similar lesion on the anterior surface of each forearm, extending from the elbows to the fingers. In addition there was a small, fissured, nonindurated ulcer at the left commissure of the mouth which had been present for several weeks. This resembled both *perlèche* and the so-called split papule of syphilis. The duration of the lupus erythematosus was ten years.

DISCUSSION.

DR. WINFIELD said there did not seem to be any doubt about the correctness of the diagnosis of lupus disseminatus. He thought, however, that the term lupus, as applied to these disseminated cases, was perhaps misleading, for he thought that these cases were entirely different, ætiologically, from the old-fashioned lupus erythematosus, the so-called butterfly lupus. The disseminate cases generally developed tuberculosis, often acute miliary, while such a termination in the butterfly type was seldom seen.

DR. TRIMBLE agreed with the diagnosis, but said that he had never seen a disseminated erythematous lupus with such a large single area of eruption on the forearm. He had seen quite a few with lesions on the forearm, round lesions that were scattered, discrete and erythematous, like erythema multiforme; but the lesions on the hands of this patient were exactly like the scaly erythematous lesions seen on the face. He said that he was in accord with Dr. Winfield, that this type of erythematous lupus was possibly different from the ordinary discoid type. One was sometimes inclined to think it an entirely different disease—an acute poisoning of some kind.

DR. FORDYCE said the patient gave a very interesting history. Seven years before, she had a hemiplegia; later an arthritis deformans, and then the skin lesions. It was not at all improbable, in his opinion, that all the symptoms presented by the patient might have been caused by one ætiological factor which may have been tuberculosis or syphilis. He had never seen syphilis produce the condition of the hands or skin presented by the patient, and as she gave a family history of tuberculosis, it was more rational to assume that the symptoms which she showed were related in some way to an old tuberculous infection.

DR. HOWARD FOX agreed that the eruption was a classical example of what was

called lupus erythematosus disseminatus. He also agreed that this seemed to be an entirely different disease from the fixed, discoid type of lupus erythematosus, as the outcome was generally a fatal one, due to general miliary tuberculosis. He had recently seen a case of Dr. George Henry Fox, that was even more extensive than this one, and which had terminated fatally.

DR. TRIMBLE recalled the case of a patient seen last year. When she first came under observation she had a similar condition to this, and it was regarded as a disseminated erythematous lupus; there was marked erythema, scaling of the face and red lesions on the forearms. She gave a history of having had numerous attacks of "grippe" with high temperature and chills, from which she would recover in a few days. She was put on treatment similar to that of the other patients, and she improved. She received a thorough physical examination, but nothing abnormal was demonstrated in the chest, although she was positive to the tuberculin test. She seemed to be somewhat frail, but was apparently in good health, when suddenly she developed a so-called "grippe" attack, with high temperature, preceded by chills. She did not get better in two or three days, and was sent to St. Luke's Hospital, where she died after a short stay. An autopsy was made, and a number of tubercles were found in the lungs. Something might have been gained from the standpoint of diagnosis by an X-ray examination.

CASE FOR DIAGNOSIS (LESION ON THE TONGUE). Presented by Dr. CLARK.

The patient gave a history that two years ago she began to have a sore tongue. Some months ago she came to Dr. Whitehouse's clinic, and on one edge of the tongue she had a sore with a raised edge and a slightly granulated condition. This was removed with the actual cautery, leaving a scar. The rest of the tongue remained more or less in the condition seen when presented. The patient had had more or less treatment for dyspepsia and indigestion, and the lesions had been better and worse. They were slightly granular, made up of enlarged papillæ, forming a sort of ring around the tip and top of the tongue. Wassermann reaction was negative. She was presented with the hope of receiving some suggestions as to diagnosis and treatment. The lesions were quite painful.

DISCUSSION.

DR. ROBINSON asked if it would seem justifiable to cauterize the lesion on the right side of the tongue.

DR. CLARK said that the lesion on the left side of the tongue had been removed, and not having been able to make any impression on the condition after three months, it was a question of whether it was justifiable to apply the cautery to the other lesions.

DR. ROBINSON said that it came under the head of superficial erosive glossitis, and suggested trichloroacetic acid, as recommended by Joseph.

SCLERODACTYLITIS AND SCLERODERMA. Presented by Dr. MacKEE for Dr. FORDYCE.

N. L., female, married, 54 years of age. The patient stated that the sclerodactylia was of six years' duration, while the scleroderma was first noticed three years ago. The former condition affected the fingers, which were atrophic and permanently flexed. The latter consisted of a dense band extending around the left leg, midway between the knee and the ankle. Where the band passed over the posterior surface of the leg it produced a deep indentation and interfered with the action of the muscles.

DISCUSSION.

DR. POTTER said that it looked as though there had been a previous ulceration on the leg which looked suspiciously like syphilis.

NODULAR SYPHILIDE RESEMBLING CROCKER'S NODULAR LUPUS ERYTHEMATOSUS. Presented by DR. MACKEE for DR. FORDYCE.

DR. MACKEE said that many of the cases presented as nodular lupus erythematosus eventually were found to be some other disease, usually either sarcoid or syphilis. This case, the speaker said, was an example of that kind.

G. B., male, married, 34 years of age. The patient was presented to the Society about eighteen months ago, at which time there was a diffuse redness of the face and neck with adherent scales, apparent teleangiectasia, but no atrophy. There was some diffuse superficial infiltration. Scattered throughout this area were a number of firm, shiny, ill-defined nodules. A few such lesions were situated on the ears. After the patient had been presented, the Wassermann reaction was found to be positive, and a careful neurological examination elicited signs of syphilitic involvement of the nervous system. The eruption completely disappeared under antisyphilitic treatment. The patient failed to remain under observation, but returned a few days ago, with a nodular and erythematous eruption on the sides and back of the neck. A histological examination of tissue removed from one of the areas of infiltration revealed a structure which, while not being typically syphilitic, suggested syphilis more than any other disease.

When the patient was first presented there was considerable discussion and the consensus of opinion was that the eruption represented the nodular type of lupus erythematosus, but one or two of the members thought it might be syphilis.

BOECK'S SARCOID? Presented by DR. MACKEE for DR. FORDYCE.

F. B., male, single, 25 years of age. The patient presented an eruption in the centre of the left cheek about the size of a child's palm. The area contained six firm, split-pea-sized nodules. The skin between the nodules appeared atrophic and the area seemed depressed below the surrounding tissues, with the exception of the nodules, which were somewhat elevated. There was a slight redness, due apparently, to a mild teleangiectasia. The eruption had existed for nine years. Two of the nodules had been removed for histological study, but it was impossible to decide upon a pathological diagnosis. Some of the sections showed a dilatation of the blood vessels with a moderate amount of round-cell infiltration. The rete pegs were lost. The sebaceous structures were very prominent. No hair follicles were encountered. The most noticeable feature was what appeared to be a marked increase in the connective tissue. It was probable that the tissue removed represented a late stage of evolution.

DISCUSSION.

DR. HOWARD FOX said that the number of "suspected" cases of sarcoid which ultimately proved to be something else was almost as great nowadays as the "suspected" cases of Addison's disease. In this case, however, there were several nodules which bore a close resemblance to the lesions on the cheek of the young woman that he had reported as a case of sarcoid.

DR. MACKEE said that the case very much resembled the one referred to by DR. HOWARD FOX. There were six nodules; the largest two had been removed, but the group formed a circular lesion in the middle of which was a distinct depression and atrophy. The diagnosis of sarcoid, of course, was tentative.

SYCOSIS. Presented by DR. POTTER.

The case was presented for suggestion as to treatment. He had been under the care of Dr. Winfield and Dr. Potter, and had received all the known treatments for the condition, which still persisted—the usual antiseptic applications, lotions and salves had first been used. Later the patient received stock vaccines and then autogenous vaccines. The individual hairs had been epilated, and X-ray treatment had also been applied. The condition had always improved under treatment, but as soon as treatment was stopped the disease returned, and the simplest application of oil or ointment would produce a crop of follicles. The man had almost no seborrhœa, his constitutional condition was good and his habits were good. He had been under treatment for a year and was most desirous of being relieved of the condition.

DISCUSSION.

DR. MACKEE said that the action of the X-ray in sycosis vulgaris was somewhat uncertain. Occasionally the disease would completely recover as a result of a few very mild applications of the X-ray. In such instances it was possible that the X-ray altered the soil by stimulating the production of autogenous vaccines. Other examples of the disease would fail to yield to stimulating doses but would respond to an epilating dose (temporary alopecia). Finally there were instances where it was necessary to produce a complete and permanent alopecia before the affection could be cured.

DR. JACKSON suggested that he should use on one side of the face an ointment composed of salicylic acid, gr. xv, colloidal sulphur 3 j, lanolin 3 vj, and goose grease ad. 3 j. On the other side of the face some other ointment might be used in order to give the former one a test of its efficacy. The amount of the sulphur should be increased after a time if the combination seemed to be doing good. He was inclined to attribute to the goose grease real virtue, and was not sure the colloidal sulphur was better than precipitated sulphur.

DR. FORDYCE said that he had been treating cases at the City Hospital with epilation and boric acid, and it seemed to yield temporarily good results.

DR. TRIMBLE said that at the University and Bellevue clinic they had been getting good results with vaccine. He had understood Dr. Potter to say that this case had received vaccine without result. At his clinic they had been very much gratified at the good results from a stock vaccine (250 million at the first dose, and going up to 500 million) at weekly intervals, accompanied with boric acid ointment. Some three or four cases had been treated in this manner in the last year. Recurrences might take place in these cases, but so far the results were better than from anything else that had been tried.

DR. ROBINSON said that he agreed with what Dr. MacKee had observed about the X-ray, but that he would not rely on it alone. The nature of the ground must be considered. He excluded all sugars, as he thought that a hyperglycæmia made the ground favorable for staphylococci.

DR. WINFIELD said that, as Dr. Potter had stated, the case had been under observation and treatment for two years, and the best results had been obtained from epilation by X-ray.

DR. HOWARD FOX mentioned that Whitfield of London, an authority on the use of vaccines, claimed that they were not of value in chronic cases of sycosis. They were only beneficial at the outset of the disease. The speaker said he himself would not hesitate to treat any case of sycosis with the X-ray. About eight years ago he had treated an obstinate case of nine years' duration. In this case it had been necessary to epilate the beard twice before a permanent result was obtained.

DR. POTTER said that in the early history of this case the results of treatment were very satisfactory, and it was thought at one time it had been cured, but the

improvement did not last long. The X-ray application had been very strong in one location, and seemed to act very well for a while, but what had done most good was a simple soothing application. He would try Dr. Jackson's suggestion, and the other forms of treatment suggested which had not already been used.

PITYRIASIS RUBRA PILARIS IN A NEGRO BOY. Presented by Dr. HOWARD FOX.

The patient, William W., was a colored boy, 14 years of age, born in the United States. In March, 1913, a generalized eruption appeared, which for the most part disappeared in the course of nine months. A certain amount of the eruption persisted and was apparent at the presentation. When seen at first, the eruption involved the scalp, face, trunk and extremities and showed typical acuminate, scaly papules of pityriasis rubra pilaris, in addition to scaly patches on the sites of predilection. At the time of presentation the patient exhibited thickening of the palms and soles, scaly patches about the elbows, knees, along the ham-string muscles, in the field of the buttocks, and upon the dorsum of the feet. The eruption caused considerable itching, and it was solely due to this symptom that he again applied for treatment.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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ARCHIV FÜR DERMATOLOGIE UND SYPHILIS.

(August, 1914, cxx, No. 3.)

Abstracted by JOHN H. STOKES, M.D.

ON PLASMA CELLS IN EPITHELIOMA OF THE SKIN. PRYTEK, p. 611.

The author concludes that in a variety of carcinomata of the skin, whether ulcerative or not, large numbers and even tumor-like masses of plasma cells

may be found. No special relation to any type of malignant growth has been worked out.

ON A CASE OF ULCUS PERFORANS WITH NEUROMA OF THE NERVUS TIBIALIS. INGA SÆVES, p. 621.

Report of a case in an alcoholic arteriosclerotic. No definite conclusions offered.

EXPERIMENTAL STUDIES ON THE DEPOSITING OF CHOLESTERIN FATS IN THE SUBCUTANEOUS CONNECTIVE TISSUE. N. ANITSCHKOW, p. 627.

The experimental work was conducted on rabbits and consisted in increasing the cholesterin content of the food by giving such substances as egg-yolk through the stomach catheter. Aseptic inflammation was then artificially excited in the skin and the histogenesis of the xanthoma cell from the macrophages in the granulation tissue, by deposition of anisotropic fat globules, was observed. This effect of increasing the cholesterin content of the blood affords an experimental demonstration of the origin of xanthomata which the writer believes to be entirely comparable to that in man. The necessity for raising the cholesterin content of the rabbit's blood far beyond the limits that it reaches in man, and the necessity for a predisposing traumatic factor in the former, argue another ætiological influence which merits further experimental investigation.

RADIUM THERAPY OF EXTERNAL AFFECTIONS. L. HALBERSTAEDTER, p. 675.

The author claims excellent results for light exposure to radium in both eczema and psoriasis, the former especially in the acute stage, on the faces of children. He also commends thorium salve in some cases. The importance of removing all crusts and detritus is emphasized. Exposures of three to seven minutes on three successive days with radium contained in a gutta percha capsule, had an excellent effect on the latter. Good results also followed the use of thorium salve, combined with a tar therapy. Results on keloid were good; on lupus vulgaris, unsatisfactory. The results in epithelioma offer nothing new. A case of Kaposi sarcoma improved, but died of metastases. Halberstaedter does not think radium effective in carcinoma of the buccal mucosa.

ICTERUS SYPHILITICUS PRÆCOX WITH SPECIAL REFERENCE TO THE ASSOCIATED ACUTE YELLOW ATROPHY OF THE LIVER. M. MICHAEL, p. 694.

The author regards syphilitic icterus as a possible complication even before the appearance of the primary lesion. He estimates that about ten per cent. of the cases develop acute yellow atrophy, which has been fatal in all but four cases thus far reported. Buschke's conception of a toxic hepatitis is accepted as the most probable explanation, milder grades of intoxication accounting for the milder cases, such as simple jaundice.

CONTRIBUTION TO THE GENESIS OF SOFT FIBROMA, WITH REMARKS ON THE OCCURRENCE OF ELASTIC FIBRES IN EPITHELIUM. C. LENNHOF, p. 719.

The author offers as possible views, (1) that the initial lesion responsible for the soft fibroma lies not in the nerve sheaths but in the epithelium itself,

in the form of aberrant rests of elastic fibrils; (2) that the cause lies in changed or necrosed elastic tissue, which has stimulated the epithelium to proliferation. The choice is left unsettled.

INVESTIGATIONS INTO CUTANEOUS REACTIONS WITH ORGAN EXTRACTS IN SYPHILIS. H. BOAS AND J. STÜRUP, p. 730.

The writers' findings are fully confirmatory of those of Fischer and of Klausner (reviewed in *THE JOURNAL* for October, 1915, *Arch. f. Dermat. u. Syph.*, cxx, No. 2). The authors found that a similar reaction could be obtained by extracts from the buboes of *ulcus molle*. They conclude that the reaction is simply one more expression of the hypersensitiveness of the skin in late syphilis, rather than a specific immunity reaction.

ON ECTHYMA GANGRÆNOSUM IN THE COURSE OF MEASLES. A. TAKAHASHI, p. 739.

On the basis of seven observed cases, thoroughly studied from a variety of points of view, Takahashi differentiates four clinical types of this affection:

(1) The ordinary form, in which vesicles, pustules and tumors develop, especially upon the dorsum of the hands and feet, and the posterior surfaces of the limbs.

(2) The hæmorrhagic-necrotic form.

(3) The phlegmonous form, with sites of predilection on the abdomen and genitalia.

(4) The furuncular form, with sites of predilection on the head and buttocks.

The disease occurs almost exclusively in children under two years of age (75 per cent.), but occasionally appears in older children. The general pathologic-anatomic picture is that common to all the acute infections—septic spleen, degenerative changes in the parenchymatous organs, glandular enlargement, bronchopneumonic foci in the lungs, and occasionally subcutaneous and intestinal hæmorrhages.

The skin changes seem to begin about the sweat glands. Bacteriological studies in the first case showed streptococci, staphylococci and a diphtheroid bacillus, the last only in the blood. The second case showed only staphylococci.

The writer's cases appeared in the course of measles. He considers the complication to be the result of hypersensitization of the skin to bacteria. The formation of the tumors was preceded by anaphylactic phenomena in the skin.

(*Ibidem*, November, 1914, cxx, No. 4.)

CLINICAL AND ANATOMICO-PATHOLOGICAL CONTRIBUTION TO THE STUDY OF CUTANEOUS LEUKAMIDES, OF FIBRO-EPITHELIOID POLYLYMPHOMATOSIS (HODGKIN'S DISEASE) AND OF MYCOSIS FUNGOIDES. GIUSEPPE MARIANI, p. 781.

This is a summary of the symptom complexes of the conditions mentioned in the title, with a comparative review. There is an interesting diagram of the relations of various conditions with a lymphatic phase. The conclusions are not especially new, and the article, being a digest, is unsuited for abstracting. There is a comprehensive bibliography.

GONOCOCCAL ABSCESS ON THE LEFT UPPER ARM; VACCINE AND SERUM TREATMENT. J. REENSTIERNA, p. 827.

Case report of a gonococcal abscess in the subcutis of the arm—a very rare complication. Thirteen reported cases in the literature.

ON PHLEBITIS ZONIFORMIS ECTATICA AND SEGMENTAL DISTRIBUTION. H. VÖRNER, p. 877.

This is a discussion of a case in which, following trauma, a series of angioma-like blood cysts appeared in the course of six years. The tumors assumed a zoniform arrangement from the axillary region anteriorly along the course of the intercostal nerves of the upper thorax, the last one appearing at the sternum. Histopathological examination showed the lesions to be enormously dilated veins, the sequels of a progressive phlebitis which was demonstrated bacteriologically to be of streptococcal origin. The author compares this remarkable picture with other occasional manifestations of a tendency to zoniform distribution, in eruptions appearing on the thorax. The fact that sensory disturbances preceded the vascular changes in the present case suggests to him an ætiological relation on the part of the nerves affected.

GILCHRIST'S DISEASE (BLASTOMYCOSIS AMERICANA) AND ITS RELATION TO THE YEAST INFECTIONS OF EUROPE. R. O. STEIN, p. 889.

Stein investigated in his case the question of skin sensitization to the blastomyces, and to extracts from the involved tissue, with negative results. Complement fixation tests were also unsuccessful. The action of potassium iodide is considered to be upon the granuloma and not upon the organism. From a study of the literature, Stein concludes that blastomycosis is an infection *sui generis*, endemic as yet only in North and South America.

CELL DIVISION IN SKIN AND CORNEA UNDER CULTIVATION. C. KREIBICH, p. 925.

Amitotic cell division is said by the author to occur in skin and cornea under cultivation. The details of the histological picture are given.

DERMATOLOGISCHE WOCHENSCHRIFT.

(July 3, 1915, lxi, No. 27.)

Abstracted by MAX SCHEER, M.D.

ON LICHEN FORMS. KURT BORN, p. 643.

In general, the differential diagnosis between lichen ruber acuminatus and lichen syphiliticus causes no difficulty. Occasionally, as in the two cases reported, these affections may closely resemble each other. The first case was a lichenoid syphiloderm; many of the papules were topped by horny plugs, 1 to 2 mm. long. This feature is most marked on the trunk, especially the lumbar and scapular regions. In the second case (lichen ruber acuminatus) the papules, especially on the trunk and hands, were grouped, and arranged in circles and segments of circles.

(Ibidem, July 17, 1915, lxi, No. 29.)

HISTOLOGICAL INVESTIGATIONS IN CASES OF LICHEN PLANUS TREATED LOCALLY WITH ARSENIC. MENAHEM HODARA, p. 699.

In cases of lichen planus treated locally either with a 45 per cent. arsenic plaster or with Fowler's solution, 1.0 in collodion 5.0, the author demonstrated the presence, within a few days, of involution of the lichen papules with a tendency to healing, similar to the histological changes found when lichen planus was treated with arsenic internally or by subcutaneous injection. These changes consist in an increase of pigment in both corium and epidermis, a disappearance of the round cell infiltration of the lichen papules and finally in a new growth of spindle-shaped connective tissue cells; in other words a fibrosis, which may be considered the terminal stage of healing. The formerly modified and œdematous epidermis becomes loosened, and beneath the scaling there is a formation of a new and more normal epidermis.

(Ibidem, July 31, 1915, lxi, No. 31.)

THE INFLAMMATORY AND URTICARIAL SKIN REACTION. A CLINICAL STUDY. F. SAMBERGER, p. 739.

Since the two hitherto prevailing views as to the nature of inflammatory reactions, viz., injury of the blood vessel walls from within or without, or irritation of vasomotor nerves, do not satisfactorily explain the phenomena as seen clinically, we must, in the author's opinion, look for a new viewpoint from which to consider these reactions. The fact that the cornea, an organ devoid of blood vessels, can, when injured, become inflamed, precludes the theory that the process starts from injury of the blood vessels. It is also hard to conceive how an excessive new growth of circumcorneal blood vessels (a constant feature in corneal inflammations) can be brought about by vasomotor stimulation or irritation, however strong. In priapism, a condition caused by excessive irritation of vasomotor nerves, in spite of marked and constant dilatation of blood vessels, there is never any exudation of serum or of blood cells, i.e., no inflammation. Moreover, experimental irritation of vasomotor nerves has never succeeded in producing an inflammatory reaction.

*(To be continued.)**(Ibidem, Aug. 7, 1915, lxi, No. 32.)*

THE INFLAMMATORY AND URTICARIAL SKIN REACTION. A CLINICAL STUDY. F. SAMBERGER, p. 763.

When tissues are irritated, whether chemically (bacterial toxins, etc.), mechanically, thermally or otherwise, there occurs a change in their metabolism, necessitating a nutrient material differing from the normal. This is brought about by a dilatation of blood vessels, an acceleration followed by a slowing of the blood stream, accumulation of leucocytes along the vessel walls and an outpouring through the vessel walls of fluid and cellular elements (reaction of inflammation). In the author's opinion the above process is undoubtedly a manifestation of the secretory function of the endothelial cells of the vessel walls. In this way a nutriment adapted to the altered condition of the cells of the injured organ is furnished them. There need be and usually there is, no injury of the vessel walls.

THE URTICARIAL REACTION. Substances such as morphine and atropine, which cause urticarial reactions, may, when exhibited in a more concentrated form, cause a distinct inflammatory reaction. Erythemas must be looked upon as

the mildest form of inflammation recognizable clinically. In urticaria there is an œdema of the connective tissue of the skin and a dilatation of lymph vessels and spaces. The views as to the chemical nature of the fluid constituting the œdema are very variable and conflicting.

(*To be concluded.*)

(*Ibidem*, Aug. 14, 1915, lxi, No. 33.)

OUR THERAPY OF CONGENITAL SYPHILIS. F. HELL, p. 787.

Treatment is begun as soon as the diagnosis is certain. Due importance is placed upon general hygienic measures, especially breast feeding. Sublimate baths and calomel internally have been discarded, the former on the ground of inefficacy, the latter on account of gastro-intestinal disturbances. Mercury is administered by inunctions or by intragluteal injections. Inunctions are given daily for six days, on the seventh day a bath, and in this way are continued from four to six weeks. Unguentum cinereum (0.3 to 0.5 gm. daily) is gently rubbed into arms, legs, chest and back on successive days; each rubbing takes from five to ten minutes. If sublimate injections are employed, they are given twice weekly in doses of 0.003 to 0.005 gm. (sublimate 1.0 sodium chloride 10.0, distilled water 100.0). They are well borne, even when the gluteal musculature is poorly developed.

Salvarsan is never used on account of danger of necroses. After a preliminary mercurial treatment neosalvarsan is administered weekly for four to six injections, in doses of 0.005 to 0.15 gm., dissolved in a little distilled water. It is given intravenously in the temporal veins or intragluteally.

The treatment is controlled by the Wassermann test. It is much harder to make this negative and to keep it negative in congenital than it is in acquired syphilis. After a few months, every case receives a second course, most receive a third and a few a fourth. If this method of treatment is conscientiously carried out, the outlook for the syphilitic infant will be more hopeful than with previous methods of treatment.

THE INFLAMMATORY AND URTICARIAL SKIN REACTION. A CLINICAL STUDY. (*Conclusion.*) F. SAMBERGER, p. 791.

Urticaria pigmentosa is a true urticaria; owing to the more active vital processes in the cells of infants, an increase of lymph in the skin brings about a hyperplasia of the connective tissue and an enormous increase in the number of mast cells. Similar histological findings are observed in lymphostasis, e.g., in elephantiasis, where there is an obstruction to the outflow of lymph. From the similar histological changes the author concludes, by analogy, that the fluid in urticarial œdema is lymph. This is further confirmed by the chemical composition of the fluid in urticarial œdema, which differs from transudates (ascites, œdema of cardiacs and nephritic disease, etc.), in that in the latter the fluid is poorer in albumin. In contradistinction to transudates, which are brought about by mechanical conditions, a fluid of a different nature must have a different origin; and in the case of urticarial œdema, the author believes that the fluid must have a biological origin. He therefore looks upon the urticarial wheal as an acute circumscribed collection of lymph, a result of the secretory activity of the endothelial cells of the vessel walls. These are stimulated to hyperactivity by an irritant acting externally, or within, or possibly through nerve channels. The œdema is brought about by a true hypersecretion of lymph and not by an obstruction to its outflow; the numerous anastomoses of lymphatics would easily compensate for an obstruction in any circumscribed area.

It is evident from the preceding, that the inflammatory reaction and the urticarial reaction are entirely distinct processes, though they may occur together.

(Ibidem, Aug. 21, 1915, lxi, No. 34.)

CONTRALATERAL ALOPECIA FOLLOWING GUNSHOT INJURIES OF THE HEAD. A. V. KNACK, p. 811.

CASE 1. Soldier, 23 years old, received a gunshot wound in the right lower frontal region, followed by unconsciousness for five minutes. Six weeks after the injury, a moderate alopecia was first noticed in the left parietal region, which in the course of several weeks spread in all directions, without, however, involving the right side of the head. The bald area was slightly hyperæsthetic. Except for general increased nervous irritability the neurological examination was negative.

CASE 2. Soldier, 21 years old, received a gunshot wound in the right parietal region, corresponding in location to the upper third of the posterior central convolution. There was bone defect and splintering and he was unconscious for one day. There was slight spasticity and weakness in the left arm, astereognosis and ataxia of the left hand and slight spasticity with pathological reflex phenomena in the right lower extremity. Thirteen weeks after the injury there was a moderate alopecia in spots over the left temporal and parietal regions, and the involved skin was hypoæsthetic.

CASE 3. Soldier, 25 years old, received gunshot injury of the left lower parietal region. There was a defect of the bone, with splintering and fissuring, extending to the left occipital region. He was unconscious for four days. Aphasia, alexia, agraphia and agnosia, which at first were total, gradually diminished. There was slight spasticity in the right lower extremity. Headache was constant, the right pupil was dilated and reacted sluggishly. Six months after the injury there was diffuse alopecia in the right parietal region, with hypoæsthesia of the affected area.

In all three cases there was no contrecoup injury observable either clinically or by X-ray. Wassermann tests were negative, fungi could not be demonstrated either microscopically or culturally, nor did the patients lie on the bald side. In Cases 2 and 3 the alopecia began after the head injuries were entirely healed. The ætiology of these cases is therefore still in the dark.

(Ibidem, Aug. 28, 1915, lxi, No. 35.)

A CASE OF URACHUS FISTULA WITH SYPHILITIC CONDYLOMATA IN THE UMBILICAL REGION. A. GAPPISCH, p. 827.

The author gives a brief review of the pathology, ætiology and diagnosis of urachus fistula followed by a report of a case of luetic papules and condylomata in this region. The constant moisture caused by drops of a turbid urine coming from the fistula was undoubtedly the important factor in the rather uncommon localization of the condylomata.

MUENCHENER MEDIZINISCHE WOCHENSCHRIFT.

(Feb. 23, 1915, lxii, No. 8.)

Abstracted by ARTHUR W. STILLIANS, M.D.

THE PROBLEM OF THE THERAPY OF THE SYPHILITIC NERVOUS DISEASES IN THE LIGHT OF THE NEWER DISCOVERIES. M. NONNE, p. 259.

The author reviews the treatment of nervous syphilis before the present era as well as the treatment of to-day. Personally he still follows Gower's rule of

treating all cases eight years after the infection and at least five years after the last symptoms. After the symptoms have disappeared the treatment consists of two courses a year, for a few weeks at a time. In case mercury and potassium iodide fail in six weeks to benefit a patient, he recommends an interval of rest and another trial of the treatment. He cites four cases from his own experience in which lues of the brain and cord was entirely resistant to mercury and iodides. The diagnosis in these cases was confirmed at post-mortem examination. One of these received salvarsan, also with no benefit. He mentions Horsley's treatment for such cases, irrigation of the involved parts with bichloride solution through a trephine opening. The old idea that it is wrong to operate syphilis of the nervous system is long ago exploded. Several very interesting cases are cited in which operation was distinctly indicated.

The dangers of salvarsan in the nervous cases is discussed and the author admits that smaller dosage and care in the preparation of the solution have in great part removed these dangers; but he cannot agree with Hoffmann that it is permissible to treat these cases outside of the hospital. He does agree that salvarsan is not neurotropic, and cites four cases of optic atrophy in which he gave mixed treatment of salvarsan and mercury, not only without injury in any case, but with remarkable improvement in the vision in one case.

(To be continued.)

(Ibidem, Mar. 2, 1915, lxii, No. 9.)

THE PROBLEM OF THE THERAPY OF THE SYPHILITIC NERVOUS DISEASES IN THE LIGHT OF THE NEWER DISCOVERIES. M. NONNE, p. 296.

In continuation, the author discusses the possibility of direct damage to the nervous tissues by the salvarsan. In his own opinion, the greatest danger is the possibility of a Herxheimer reaction in a vital part like the medulla.

He criticizes the modern demand that a case "cured" of syphilis must show, in addition to a clinical cure, a negative Wassermann reaction, and raises the question whether a cured case cannot go on producing antibodies and so maintain a positive Wassermann reaction without the presence of the spirochætæ. In answer to this is the fact that the strongest serous reactions occur in the recent cases where the number of spirochætæ is the greatest, and the fact that the reaction disappears after treatment. Cases of latent lues with positive Wassermann show luetic lesions at post-mortem. On the other hand, cases of paresis and luetic aortitis with persistent Wassermann come to post and show no active lues, macroscopically, at least. He acknowledges, however, that there may be microscopic lesions. He believes that further research will prove that a positive serum test means active lues.

One of the great problems for research to clear up is the method by which the early meningeal infection of lues is cured. He doubts that there are specially neurotropic strains of spirochætæ. Recent research makes it very improbable. The weightiest problem of the whole debate over the therapy of syphilis is the question whether salvarsan increases the neurotropic affinity of the virus of syphilis. This will take years to decide.

The idea of requiring one or several negative tests on the spinal fluid before pronouncing a case of lues cured is hardly practical, because of the natural dread of lumbar puncture after the first experience; and by the time necessary to a correct technique, for Nonne believes that every lumbar puncture, especially in cases suspected of nervous lues, should be followed by two days' rest in bed, to avoid injury which may lay the patient up for days or weeks.

He has not yet felt justified in attempting to provoke a positive reaction in

the spinal fluid by salvarsan injection. He believes in beginning the treatment of nervous syphilis with mercury and later giving salvarsan in small doses, cautiously increased. Too energetic or too long continued treatment may be harmful. The chronic intermittent method is his favorite. Dosage must be especially cautious in tabes and paresis, for the excretory apparatus is apt to be heavily handicapped. Too energetic treatment often harms cases of tabes or paresis.

Every tabes case that has not had antisyphilitic treatment since the onset of the tabes should have a course beginning with mercury and then adding small doses of salvarsan, 0.2 or 0.3 gm., cautiously increased. The repetition of the series of treatments should depend on the clinical features of the case, not on the laboratory findings. If the case has previously been benign in its course, the treatment ought not to be repeated for a year.

Acute exacerbations indicate antisyphilitic treatment.

Stationary cases without noteworthy distress should receive treatment to improve their general condition.

Advanced cases should also receive treatment for their symptoms and general condition, not antisyphilitic treatment.

If a course of antisyphilitic treatment has produced a striking improvement, repeat the course in about six months, still with very cautious dosage.

For paresis the same rules hold, except that here still greater caution must be used.

From the various methods of introlumbal injection he has not seen any wonderful results, but thinks them safe if the technique is correct. The solution of the drug in the patient's own spinal fluid he considers the easiest technique.

He discusses the combined treatment of paresis with mercury and tuberculin, but considers it still in the experimental stage.

(*Ibidem*, Mar. 23, 1915, lxii, No. 12.)

THE SIMULTANEOUS USE OF HÆMOLYSIN AND HÆMAGGLUTININ AS INDICATORS IN THE COMPLEMENT BINDING REACTION FOR THE DIAGNOSIS OF SYPHILIS. W. PFEILER and G. SCHEYER, p. 393.

Before the outbreak of the war, Fedders and Pfeiler reported on the simultaneous use of the agglutinating and hæmolytic action of hæmolytic serum in the complement binding reaction. The value of this modification of the reaction was first demonstrated in the serum diagnosis of glanders. As the serum of asses and mules is anti-complementary to guinea-pigs' serum, horse serum was used for complement, with beef serum as hæmolyzing agent and guinea-pig corpuscles. With this hæmolytic serum they obtained positive reactions in cases of glanders that had given negative reactions by the usual technique.

As antigen in the syphilis test they use cholesterinized alcoholic extract of beef heart. This is very carefully titrated, the titration repeated at short intervals to be sure that it has not changed, and the full titre, the largest amount that can be used without being in itself anticomplementary, is used in the test. The horse serum complement and beef serum hæmolysin are titrated simultaneously, and one titre of complement and two of beef serum are used for the test. Only one drop of one per cent. guinea-pig corpuscles is used. The human serum to be tested is used in diminishing amounts, from 0.2 cc. to 0.002 cc.

The human serum, complement and extract are combined and left in the incubator fifteen minutes. Then the beef serum and corpuscles are added, the tubes returned to the incubator for an hour or less. The reaction is then read.

With this test they have found that a much smaller amount of syphilitic serum than is necessary in the Wassermann reaction gives a positive reaction, and in several cases where lues was suspected the new reaction gave strong positives

where the Wassermann was negative. Several cases of typhoid fever gave positive reactions. Whether they were also syphilitic could not be determined. The authors recommend this test to be used parallel to the Wassermann reaction.

OCCURRENCE OF DIPHThERIA BACILLI IN HERPES VESICLES DURING DIPHThERIA. RALL, p. 396.

Of 94 cases of herpes occurring during diphtheria, in 26, or 27.65%, diphtheria bacilli were obtained from the vesicle contents. In herpes of the nose, 60% gave positive findings; in herpes of the cheek, 40%, and in herpes of the lip, only 23%.

The author concludes that the herpes vesicles are secondarily infected with diphtheria, that the herpes has no prognostic value for the diphtheria whatever, and that the infection of others from the infected vesicles seldom, if ever, occurs.

THE USE OF PICRIC ACID IN BURNS AND SKIN DISEASES. H. HEUSNER, p. 401.

The author mentions the value of picric acid in burns, furunculosis, weeping eczema, varicose ulcer, etc., and claims that it would be used much oftener if its disagreeable and dangerous features could be eliminated. It is best used in ointment form, but he claims that with the ordinary ointment bases it soon deteriorates, or its activity is lessened. These disadvantages are avoided, he claims, by the use of the proprietary base, glykasine.

ON THE TREATMENT OF FREEZING. A. WITTEK, p. 416.

The theory of Noesske, that gangrene may often be avoided in severely crushed and lacerated wounds of the extremities by deep incisions in the injured part, allowing the escape of venous blood and the entrance of arterial blood, was applied by the author to cases of gangrene due to freezing. Within twenty-four hours of the application of the treatment he has seen the line of demarcation descend and the blue-green, glassy appearance of the part clear up. The fever promptly receded and no phlegmon formed. He used collargol wet dressings for the first three days, then a mild ointment. He recommends the method highly. "One is pleasantly surprised at the slight extent of the necrotic area."

TREATMENT OF FROZEN FINGERS AND TOES. E. BUNDSCHUH, p. 416.

The author also praises the excellent results of the Noesske treatment. In addition to the deep incisions, he applies the cupping glass twice the first day and once each day thereafter, and prevents the adhesion of the wound edges by the interposition of gauze dipped in sterile oil. Lukewarm baths for the affected member were also very effective. In superficial freezing the incisions need not be so deep, but they should always be deepest on the ball of the finger, as this part is always in the greatest danger.

TREATMENT OF SYPHILIS IN THE FIELD WITH MERCINOL (GRAY OIL). A. NEISSER, p. 417.

A strong argument for gray oil in place of the other insoluble salts of mercury. In his experience it has given far better results than any other method of using mercury. He gives a man usually 10 divisions of the Zieler and Barthélemy syringe (this quantity of the 40% oil contains just 10 cgm. of mer-

cury); but the dose varies according to the needs of the individual from 7 to 14 cgm. The injection is given once a week, until 50 to 70 cgm. have been given. The much-discussed danger of sudden absorption from several depots at once he avoids by watching for infiltrations and, if they appear, changing to another method of administration. An infiltrate means slow absorption, and many such depots are dangerous. If one wishes to be very careful, the fourth, fifth and sixth injections can be given at intervals of two weeks. The urine and the teeth must of course be carefully watched. For stomatitis the usual rinsing of the mouth with peroxide or other mouth wash is entirely insufficient. The teeth and gums must be cleansed by some experienced person, cleaning between the teeth with a cotton swab soaked in strong carbolic acid.

Of salvarsan he gives 3.0 gms. to a series of about 10 injections, of neosalvarsan 4.0 gms., not more than ten days elapsing between injections. He believes that this combined treatment can easily be carried on in the field hospital, and even in cerebral cases would give an injection of salvarsan and one of gray oil before starting the case on the journey to the larger hospital.

TREATMENT OF SPOTTED FEVER WITH HEXAMETHYLENTETRAMIN. B. COGLIEVINA, p. 418.

The author warmly recommends hexamethylenetetramin in doses of 1.0 gm. three times the first day, four times the second day, and five times each day after that. In cases receiving this treatment the cerebro-spinal symptoms and diarrhoea were controlled. No other treatment was given except cold packs for the high temperature and ice cap for headache. The urine of each patient receiving this treatment was examined daily. There were no signs of kidney or bladder irritation in any case.

(*Ibidem*, Mar. 30, 1915, lxii, No. 13.)

ON THE SALVARSAN TREATMENT IN CASES OF SOFT ULCER. A. NEISSER, p. 438.

The author enters the discussion carried on between E. Hoffmann and H. Mueller, as to whether it is justifiable in all cases of soft ulcer to give abortive salvarsan treatment in order to make sure of those cases of lues that develop insidiously upon clinically typical soft ulcers. He agrees with Hoffmann that in most cases an energetic examination will decide the question early enough for abortive treatment. He states, however, that very few general practitioners are able to make such an examination. There are cases where the most painstaking examination fails to discover the luetic infection. He asks if it is not more advantageous to the patient to give him at once the harmless and not unpleasant treatment that in 99% of cases removes all danger of syphilis. Hoffmann states that a treatment for syphilis makes the patient anxious for the rest of his life for fear he has not been cured and may suffer a recurrence. Neisser replies that patients will suffer the same anxiety if a soft ulcer is not followed up by treatment for syphilis. He believes that the best way to relieve all anxiety is to give the treatment in every urgent case. Not in every case of soft ulcer, but only in those that cannot remain within reach of a specialist, or those that are soon to be married.

OBITUARY.

PAUL EHRLICH.

PAUL EHRLICH was born on March 14th, 1854, in Strehlen, Silesia. He was educated in the Universities of Breslau, Strassburg, Freiburg and Leipzig, and received his degree in medicine from the last in 1878. He was married on March 14th, 1883. He died in Bad Homburg on August 20th, 1915, after a long illness, with arteriosclerosis, disease of the kidneys and diabetes, and finally heart failure. He is survived by two married daughters.

Such is the bare outline of the life history of this world-renowned scientist. He was a most enthusiastic investigator, an incessant worker and a brilliant and profound thinker, to whom we are indebted for much of our present knowledge of the chemical aspects of medicine. He was a pioneer in the study of hæmatology. All the methods for the cytological investigation of exudates we owe to his original observations. He evolved the side-chain theory of infection; standardized diphtheria antitoxine; and suggested to Koch a new method of staining his tubercle bacillus. After patient experimentation he gave to the world, in the early part of 1910, salvarsan for the treatment of syphilis and other spirochætal infections. Even though his early hope of curing syphilis with a single injection of that substance was not fulfilled, excepting in a few cases, it is a boon to suffering humanity and its discovery has written Ehrlich's name in capital letters on the pages of medical history. In recent years he was engaged in the study of the cancer problem.

His professional career was marked by a succession of triumphs, and honors were freely bestowed on him. In 1889 he was made Privatdozent in medicine in the University of Berlin. In 1890 he was Koch's assistant in the Institute of Infectious Diseases, and in 1891 he became Professor in the University of Berlin. In 1896 he was made Director of the Royal Institute for Serum Study, in Steglitz, which in 1899 became the Royal Institute for Experimental Therapy in Frankfurt. In 1904 he was made Honorary Professor in the University of Göttingen. In 1906, by the gift of Mrs. George Speyer, the Institute for the Study of Chemical Therapeutics was founded, of which he was the head. In 1904 he received the degree of Doctor of Laws from the University of Chicago, and in 1907 that of Doctor of Science from the University of Oxford. He was also a Geheimrath, and was decorated by the Kaiser with the order of the Red Eagle and by King Alfonso of Spain with the Grand Cross of the Order Civil. In 1908 he shared with Metchnikoff the Nobel Prize for researches in immunity.

Professor Ehrlich delivered many addresses before medical and scientific bodies both in his own and other lands, and contributed a number of epoch-making papers to medical journals. He also was the author of several books and monographs, of which the following is a partial list:

- Färbung des Tuberclebacillus, 1882.
- Diazoreaktion des Harn, 1883.
- Das Sauerstoffbedürfniss des Organismus, 1885.
- Über Sulfodiazobenzoreaktion, 1886.
- Über Methylenblaureaktion der lebenden Nervensubstanz, 1886.
- Gesammelte Arbeiten zur Immunitätsforschung, 1900.
- Beiträge zur experimentellen Pathologie und Chemotherapie, 1909.
- Die experimentelle Therapie der Spirillen, 1910 (with Hata).
- Theorie und Praxis der Chemotherapie, 1911.
- Grundlage und Erfolge der Chemotherapie, 1911.
- Abhandlungen über Salvarsan, 1911.

G. T. J.

BOOK REVIEW.

A PRACTICAL TREATISE ON DISEASES OF THE SKIN FOR THE USE OF STUDENTS AND PRACTITIONERS. BY OLIVER S. ORMSBY, M.D., Professor of Skin and Venereal Diseases, Rush Medical College, Chicago. LEA AND FEBIGER, Philadelphia and New York, 1915.

Dr. Ormsby acknowledges his indebtedness to the late Dr. James Nevins Hyde and Dr. Frank Hugh Montgomery in the preparation of this work. For many years the text book of Dr. Hyde, later succeeded by the joint work of Hyde and Montgomery, was the standard one on dermatology in this country. The additions to our knowledge of skin diseases during the past few years have been so numerous that a revision of the former work was no longer feasible. For that reason the author has presented the profession with an entirely new treatise which has incorporated the important advances in this special field of medicine, enriched with the large experience of the author in private and public work.

Dr. Ormsby is a concise and clear writer and has presented his subject in an attractive manner. The plan which he has followed is that employed by the majority of American writers, the body of the work being prefaced with the usual chapters on the anatomy and physiology of the skin, followed by others on general symptomatology, ætiology, pathology, diagnosis, prognosis, therapeutics and classification. The student of dermatology will be amply rewarded by a careful perusal of these chapters which have embodied, in an original manner, many of the newer facts and a description of the most important pathological processes which are peculiar to the integument and its adjacent tissues. Observation of the various diseases which are met with on the skin and the nearby mucosa affords one exceptional opportunity to study gross pathological changes in their stages of evolution and involution. If one can at the same time visualize the histological picture which is present or developing, a much more comprehensive grasp of the subject will be obtained.

The chapter on General Pathology, which is an excellent introduction to this subject, might be elaborated by a more detailed description of the various types of cells and the significance of each which are found in the acute and chronic forms of skin inflammations, as well as by a discussion as to the manner in which the skin defends or protects itself against bacterial invasions and chemical or mechanical insults. Sabouraud, several years ago, published in the *Annales de dermatologie et de syphiligraphie*, 1899, page 729, a very suggestive article on the defensive processes in the skin which should be studied by everyone interested in this special field of pathology.

The chapter on General Diagnosis discusses the principles of the subject and describes in detail the various tuberculin tests, the Wassermann reaction and the luetin test.

Under the heading of General Therapeutics the author emphasizes the importance of recognizing the intimate relation between the skin and the other organs of the body and the remedies which are employed internally for their more or less specific influence on external lesions. Unfortunately, with the exception of syphilis, there are few lesions of the skin which can be definitely influenced by remedies of this class. We depend chiefly on external applications and the skill with which these are employed determines often the success or failure of the practitioner. Vaccines, although largely employed by dermatologists, have, with the exception of the staphylococcus vaccine, accomplished little in cutaneous therapeutics. The autogenous serum treatment is still in the

experimental stage, although excellent results have followed its use in dermatitis herpetiformis and in obstinate cases of psoriasis. In radiotherapy we have an agent which, when properly used, has achieved some of the most brilliant results in cutaneous therapeutics. In the opinion of the reviewer, the old-fashioned technique still used by many X-ray workers should be replaced by the more accurate and scientific single dose method. If the Coolidge tube is used and the dose properly measured, much time is saved and more uniform results obtained. Basal celled epitheliomas, mycosis fungoides, keloid, obstinate forms of lichen planus, chronic palmar eczemas, scalp ringworm and numerous other skin diseases yield rapidly or are greatly benefited by this agent. Radiotherapy as now employed is practically without a rival in the conditions enumerated, and no properly equipped dermatological clinic or office can be conducted without its aid. A very lucid description of the theory and technique of phototherapy and radium is incorporated in this chapter.

In a comprehensive work on Dermatology some attempt at classification should of course be made, but unfortunately our knowledge of the ætiology and pathology of so many conditions is as yet obscure and a grouping of diseases on existing knowledge of this kind leads to many curious combinations. Dr. Ormsby and other authors are probably wise in adhering to the old Hebra classification in the present stage of transition of our knowledge, although it gives rise to the association of conditions in no way related. For the instruction of students the classification proposed by Brocq some years ago is an excellent one, but perhaps too fragmentary for a text book that aims to be complete. The time allotted to the teaching of dermatology in the average medical school is too short for the instruction to cover the entire subject or to enable the student to comprehend the reasons for including the pyodermias and related infections with the hypertrophies, or syphilis with new growths. Because of the association of unrelated conditions in the Hebra classification, it would seem advisable for the teacher to employ a simpler method as an introduction to the maze which is soon to confront the student. A practical working classification like the one proposed by Brocq (*Annales de dermatologie et de syphiligraphie*, 1904, p. 193) or one modified after his idea, which includes in one group the traumatic dermatoses, in a second the affections produced by the commoner organisms as the staphylococci and the streptococci, the vegetable and animal parasites, and in a third the diseases caused by the highly specific organisms, such as the tubercle bacillus, the lepra bacillus, the spirochæta pallida; a fourth group embracing all congenital anomalies, a fifth, skin reactions such as the urticarias, the erythemas, eczemas, etc., a sixth one taking in the large number of diseases of unknown ætiology, and a seventh, new growths. Instructed on lines somewhat after the foregoing model, or the ætiological classification as proposed by Darier (*La Pratique Dermatologique*, vol. I, page 61), the student would at least obtain an insight into the complicated subject which baffles the average beginner.

Dr. Ormsby has been exceedingly diligent and conscientious in his review of the literature and has incorporated the newer diseases which have been described in the past years, including purpura annularis teleangiectodes, first studied in this country by MacKee; a peculiar progressive pigmentary disease of the skin described by Schamberg in 1900; kératodermie blennorrhagique; érythrodermie congénitale ichthyosiforme; hereditary œdema of the legs (Milroy's disease); paraffin prosthesis; gangosa; grain itch, and others.

In a work on Dermatology, syphilis is of course treated chiefly from a dermatological standpoint. The student however should be taught, and that in the most emphatic manner, that we are dealing with a general and most important infection, which, while producing its primary effects on the skin, at the same time may prepare the way for the most serious consequences on the part of the nervous system, the eye and the cardiovascular apparatus. As pure dermatologists we are apt to lose sight of the more serious general results of the infection,

but there is every reason for instructing students in all departments of the medical school in which syphilis is touched upon, the far-reaching nature of the disease in its acquired and hereditary forms. The importance of early diagnosis with well-planned and executed treatment cannot be urged too frequently or emphatically.

It is a pleasure to review a work of this character which shows on all sides the most painstaking care, and those who enjoy the personal acquaintance of the author and have long been familiar with his methods of work will not be disappointed in this contribution to the literature of Dermatology, which will quickly occupy a high place among the best text books on the subject. J. A. F.

NOTICES.

Dr. George T. Jackson, 616 Madison Avenue, New York City, has the following back numbers of *THE JOURNAL*, which are at the disposal of our subscribers:

- Vol. 4, 1886, January.
- “ 5, 1887, July.
- “ 11, 1893, June, August and September.
- “ 14, 1896, July.
- “ 20, 1902, December.
- “ 21, 1903, May and August.
- “ 23, 1905, April and June.
- “ 26, 1908, June.
- “ 27, 1909, March.
- “ 28, 1910, October, November and December.
- “ 29, 1911, January.

Also the following issues of the *Dermatologische Wochenschrift* (formerly the *Monatshefte*):

- Vol. 35, 1902, December 15th.
- “ 40, 1905, January 15th.
- “ 52, 1911, January 15th.
- “ 54, 1912, January 6th.

MINNESOTA DERMATOLOGICAL SOCIETY.

The MINNESOTA DERMATOLOGICAL SOCIETY was organized at a meeting held on October 19, 1915, at Minneapolis, Minn., members being present from Minneapolis, St. Paul, Duluth and Rochester. Regular meetings will be held four times a year, alternating between St. Paul and Minneapolis.

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PRECANCEROUS DERMATOSES: A SIXTH CASE OF A TYPE RECENTLY DESCRIBED.

BY JOHN T. BOWEN, M.D., Boston.

Professor of Dermatology, *Emeritus*, Harvard University.

IN the *Journal of Cutaneous Diseases* for May, 1912, the writer published an article, entitled "Precancerous Dermatoses: a Study of Two Cases of Chronic Atypical Epithelial Proliferation." In this article the various conditions that had been sometimes grouped under the title "Precancerous Conditions," "Precancerous Keratoses," etc., were enumerated and discussed, and the relationship, chiefly from the point of view of histological structure, that two peculiar cases of a chronic dermatosis recently observed bore to these precancerous dermatoses, was illustrated by description and by figures. In both of my cases "the patients were males in the fifth decade of their lives. In the first case the affection had had its beginning nineteen years previous to the time when the patient was first seen; in the second case, four or five years. The lesions were circumscribed; in the one case limited to the left gluteal region, in the other to the calf of the right leg. They appeared as papular and tubercular lesions, only slightly elevated above the normal skin, of a moderately firm consistency, and dull red in color. The surface was in some places slightly crusted; in other places it had a papillomatous character. The lesions were in places confluent, forming areas of tumorlike masses; in other places, especially at the edge of the affected areas, they were discrete, or assumed annular or serpiginous figures. Apparently the lesions never disappeared spontaneously. New elements appeared at the periphery of the areas that had been treated by the curette or by freezing, and there were apparently some recurrences in the cicatrix or within its boundaries. The subjective symptoms were slight. Histologically the lesions showed a marked proliferation of the rete Malpighii in every lesion excised. There were very numerous evidences of karyokinetic division and amitoses,

with peculiar clumping of the nuclei and vacuolization of the cells. In the more advanced lesions there was an hypertrophy of the horny layer, a hyperkeratosis and parakeratosis, with abundant evidence of cells not having undergone the process of cornification, but showing nuclei surrounded by "membranes" or by clear spaces. An œdema of all the epidermal layers was in the more advanced lesions apparent, which was sometimes so pronounced that a crust was formed at the surface. The changes in the corium were very constant and in direct proportion to those of the epidermis. In the youngest lesion obtainable, that from Case 2, the epithelial proliferation, mitosis, "clumping" of nuclei and vacuolization, were accompanied by enlargements of the vessels in the upper cutaneous layers, which were surrounded by cell masses, of which a large proportion were of the type of plasma cells. In the deeper and more advanced lesions of both cases, the enlargement of the cutaneous vessels was very pronounced, and in some places the masses of cells about the vessels were very dense and made up entirely of plasma cells. There was either an absence or great diminution in the elastic fibres in the corium of the affected territory."

In discussing the question as to the category of recognized dermatoses in which these two cases belong, it was pointed out that clinically it seemed impossible to determine that they bore a close resemblance to any previously described type. Histologically, on the other hand, there were very marked characteristics, of such a nature as to warrant the assertion that the group of precancerous dermatoses was the only one to be considered in drawing an analogy. The various forms of precancerous dermatoses—viz., Paget's disease of the nipple, including extra-mammary Paget's disease, Roentgen-ray dermatitis, xeroderma pigmentosum, keratosis senilis (keratoma senile), and arsenical keratosis—were then discussed, and the striking points of histological resemblance between all of these forms to a greater or less extent, and the two cases described, was emphasized. The greatest histological analogy was shown to be with Paget's disease. Inasmuch as all of these forms are frequently the starting point of cancer, it was confidently asserted that although as yet no signs of malignancy had occurred in the writer's two cases, such a sequel was imminent.

In June, 1914, I received a letter from Dr. J. Darier, of Paris, stating that he was about to publish, in the *Annales de dermatologie et de syphiligraphie*, a description and histological study of three cases of a nature identical with those reported by me, showing that the affection was not exceptionally uncommon—two personal ob-

servations, and one of Dr. Danel, of Lille. The first case had been observed and set apart for study before my own work had appeared; thereafter, the identity of his case with those reported by me was at once apparent. A most interesting feature to me, in Dr. Darier's personal communication, was the fact that in two of the three cases to be reported by him there had been a cancerous degeneration. Dr. Darier was able to confirm almost completely my histological findings, and called my attention to the name "dyskératose" which he had proposed in *La Pratique Dermatologique*, i, p. 106, to designate the epithelial alterations in which certain epidermic cells undergo a vitiated involution and keratinization, giving rise to the name pseudo-coccidiæ.

While awaiting with interest the appearance of Dr. Darier's article in the August-September number of the *Annales*, so long delayed by the mobilization in France, a third case of this same disease came under my observation, with cancerous degeneration, the publication of which has been delayed, however, until I could read the investigations and results of the eminent French dermatologist.

Finally, in July, 1915, I received the belated number of the *Annales* for August-September, 1914, in which appeared the awaited article by Darier, which was entitled "La dermatose précancéreuse de Bowen, dyskératose lenticulaire et en disques." It seems to me proper for the sake of completeness to repeat the description, both clinical and histological, of my first two cases, then to give the three cases added by Darier, and in conclusion to offer a description of my third case, which will be the sixth thus far reported. The cases are given in the order in which they have been reported.

CASE 1. (Bowen.) The patient was first admitted to the Massachusetts General Hospital on April 16, 1909. The man was of English parentage, a native of Fall River, Massachusetts, 49 years of age, a weaver by occupation, and a man of considerable intelligence. He declared that the affection had first appeared 19 years previously when he was 30 years of age. The first appearances were those of a good-sized "pimple" on his gluteal region, which was accompanied by slight itching, but of which he took no notice for several years until he became conscious that it was gradually increasing in size. He complained of some pain in connection with the lesions, chiefly noticeable when seated or after walking, and especially marked at times when the lesion became excoriated and showed a discharge. The inconvenience and pain were chiefly noticeable in the warm weather. During the past 19 years he had used many external applications and at one time he had one treatment of X-rays without producing any marked reaction or results.

The patient was a man of small stature, weighing only in the neighborhood of 105 lbs. His appearance, however, was that of a person in fair health. Nothing of importance could be found in the family history. He had two brothers and one sister living and well, and could give no history of any preceding affections except congestion of the lungs 12 years ago. He denied venereal disease. He was not addicted to the use of alcohol.

Nothing abnormal could be detected on examination of the internal organs. When stripped, the patient presented the appearance of an under-sized, thin, but not cachectic man. In the right lumbar region there were scars which the patient said were derived from an abscess which he had when a boy. An interesting feature was the presence of quite numerous small angiomas, scattered over the abdomen and back, from the size of a pin's head to that of a small pea. These lesions he had never observed with any care, but they had probably been present for many years.

The affection of the skin for which he sought relief was situated on the left buttock. The area invaded was irregularly rounded and measured about 4 inches in each diameter. This area was covered with lesions both isolated and confluent. The isolated lesions were represented by papules and tubercles slightly raised above the surface, flattened at the top, and generally rounded at the circumference. These isolated lesions varied in size from an eighth of an inch to half an inch in diameter; they were generally situated at the outer borders of the patch, and at the extreme edge they took on often an annular arrangement, or in some instances they formed almost serpiginous figures. The centre of the patch was made up of more or less confluent lesions, although there were many partially defined, separate lesions. A small amount of cicatricial tissue could be seen interspersed between papules and raised, confluent areas.

The color of the lesions and confluent patches was a dull red. The lesions were moderately firm, but not hard to the touch. The surface of the lesions was somewhat uneven. In places there was a papillomatous tendency. The surface was, in places, scaling and crusted, and here and there were marks of a slight exudation. The crusts were always extremely superficial.

On the possibility that these lesions might be of syphilitic nature the patient was put upon iodide of potash. Some improvement was noted under this treatment during the first few weeks, but as the improvement seemed to be at a standstill, curetting was resorted to, small areas being treated at a time, as the patient was extremely sensitive and refused active surgical intervention. Under the curette the lesions bled freely and were extremely painful.

On the 5th of June he was discharged, much relieved. A large portion of the tissue had been mechanically destroyed by the curette, although there were still a number of areas which had not been entirely removed.

During his stay in the hospital the patient's condition was extremely good. Examination of the blood and secretions showed nothing abnormal. Several pieces of tissue were removed for microscopical examination. The findings will be referred to later.

Just about a year later, on April 4th, 1910, the patient was readmitted to the hospital. During the interval since last seen he had worked quite steadily at his occupation. Practically no treatment had been followed with the exception of some indifferent ointments. He appeared again at the hospital because the lesions in the affected area had considerably increased in number and sitting and walking had again become painful.

On examination it was found that the lesions were still much less pronounced than when he had first applied for treatment, but that there had been a considerable increase within the last year. The extent of the area had slightly increased, new lesions having appeared at the lower border of the patch. Considerable smooth cicatricial tissue was to be seen in the centre of the patch, which represented the site of the lesions that had been removed by the curette. The confluent areas that had previously been present no longer existed.

At this time it was decided to treat the lesions by freezing with carbon dioxide snow, as the patient was still extremely sensitive, and refused active surgical treatment. The lesions were deeply frozen with firm pressure for 60 seconds, the area and lesions being treated piecemeal, a few at a time.

The patient remained this time in the hospital 6 weeks and when he left, the

skin over the patch had been converted into a smooth cicatrix with only here and there the remains of a lesion.

Again, on Sept. 27, 1911, the patient was admitted to the hospital. In the interval of 15 months, during which time no treatment had been followed, there had been a considerable recurrence at the edge of the area, and also here and there in the midst of the cicatrix caused by treatment. Some of the new lesions had a papillomatous appearance clinically, and bled rather freely upon being handled. None of the lesions was as large as the largest individual ones described previously. Many of these lesions were distinctly nummular in shape and varied in size from that of a three-cent piece to that of a half dollar. The largest ones were raised $\frac{1}{8}$ of an inch above the surface of the skin. The nummular patches were situated chiefly along the lower border of the affected area and were more or less confluent, forming polycyclical figures along the lower edge.

The pinhead to pea-sized angiomas over the body and extremities had not increased in numbers apparently, and presented the same appearance as before.

The patient's condition was practically the same. He asserted that although not precluding work, the lesions made it hard to get about, especially in hot weather. He also declared that no lesion had disappeared spontaneously, so far as he could determine, but that all improvement had been from mechanical interference. The patient was again treated by the freezing method and remained in the hospital nearly two months. At the time of his discharge practically the whole area had been transformed into a cicatrix and only a slight infiltration was left at the site of some of the lesions that had resisted the freezing more than the others.

HISTOLOGICAL EXAMINATION. The first specimen was removed on April 22, 1909, placed in Zenker's fluid and serial sections made. The most prominent features seen with a low power were an extreme hyperplasia of the epidermis, especially of the rete, and an enlargement and engorgement of the vessels of the corium. A small amount of the outer layer of horny plates was intact, with here and there a leucocyte or nucleus that had retained its power of receiving the stain. The plates of scales were loose and broken and beneath this outer layer there was seen an irregular preservation of the epithelial cells, which in some instances showed a very distinct nucleus and cell boundary; in others the cornification had gone on to a greater or less degree. The cells were forced apart in many places and there were distinct signs of œdema. In certain places a reticulation of the cells was noticeable so that small vesicles in the upper layers were sometimes seen. This condition of œdema was a striking feature throughout the whole epidermis, in greater or less degree, and explained the partially developed crusts and moist scales that were present on the surface of the lesion. The stratum granulosum was nowhere apparent in its entirety, although here and there indications were to be seen of abnormal granulations.

The whole of the rete Malpighii was increased in size, the upper layers showing strong evidence of this condition of œdema, the cells being separated in places from one another and distorted by being stretched out both laterally and longitudinally. The nuclei were usually well stained, with the exception of the "clumped nuclei" to be described hereafter. A prominent feature of the rete appearances was the presence of very numerous mitoses of varying forms, extending from just above the basal cells to nearly the surface horny cells. These mitoses were not seen in the basal layer. A frequent change seen in the nuclei was that of the clumping just referred to. It was to be seen very prominently throughout all of the sections and occurred beginning with the cells immediately above the basal layer and extended to the upper edge of the rete. The outlines of from two to a dozen nuclei, which took the basic stain in an indistinct manner, could be seen huddled together in the remains of a much enlarged cellular space, with a clear space at the periphery. These appearances must be considered due to amitosis; and were so prominent in all the sections from every lesion examined in the case

that their occurrence must be considered a characteristic feature of the affection. The most prominent feature in the corium when looked at with a low power, was the increase in size of the blood and lymph vessels. At first sight one might think that there was a true angioma present. This enlargement and dilatation of the vessels extended downward as far as the section of the skin reached, which was not, unfortunately, very deep into the subcutaneous tissue. This enlargement affected chiefly the blood vessels, but in many places a similar enlargement of lymph vessels could be made out. The vessels were filled with red blood corpuscles in most instances. In a considerable number there were numerous polynuclear leucocytes, which in a few instances nearly filled the lumina of the vessels. Corresponding to the marked œdema of the epidermis, the connective tissue of the corium was the seat of a similar change. There was a rarefaction of the collagen in the upper papillary layers, while the elastic fibres in this location were practically absent, or did not respond to the specific staining agents. The cell infiltration in the corium was quite pronounced. In general, plasma cells predominated greatly. This plasmomatous infiltration was to a considerable extent grouped about the enlarged blood and lymph vessels, but these cells were present also in moderate numbers in places where the vessels were not conspicuous. Mingled with the plasma cells were some cells of the lymphoid type and a very few mast cells, with an occasional red blood corpuscle. In one or two places where the papillæ were very œdematous and the collagen fibrils pushed far apart, a few polymorphonuclear leucocytes were seen about the vessels.

On the patient's readmittance to the hospital in April, 1910, bits of the affected tissue were excised for microscopical examination on April 5th, April 8th, and April 10th. It will be remembered that during the interval between the patient's stay in the hospital and his readmission no treatment, except the application of soothing ointments, had been observed. There was little change from the appearances described in the tissue examined the year previously. In some of the lesions the cell accumulation in the corium showed a less preponderance of plasma cells and more round lymphoid elements and fibroblasts. This was especially noted in the smaller and presumably younger lesions. In these lesions the vascular hypertrophy did not compare in degree with that seen in sections where the plasma cells are very numerous. In several of the pieces examined there was a great amount of keratosis, but it could not be determined that this was associated with an essential difference in the underlying epidermal layers, nor in the corium.

A piece excised in September, 1911, showed greater epithelial proliferation than any of the other bits examined. There were also some epithelial pearls in the epidermis. There was no sign of distinct carcinomatous formation, however. In this specimen the enlargement of the vessels was not nearly so marked as in the other lesions. The plasma cells made up the bulk of the cell collection, although here and there were thick agglomerations of small round cells of the lymphoid type. In this specimen the tissue was obtained from a greater depth than in the preceding instances, but there were no abnormal signs below the corium.

CASE 2. (Bowen.) The case that has just been described immediately recalled to mind a similar case that had been observed at the out-patient department of the hospital at intervals for several years. The man was 52 years of age, a native of Scotland, a cooper by trade, residing in the suburbs of Boston.

He first came to the hospital Sept. 6, 1907. The history was that the lesions had existed for from 4 to 5 years. He presented, on the outer side of the calf of the right leg, an area resembling in a marked degree the appearances that have just been described as occurring on the buttocks in the previous case. The area was from 3 to 4 inches in diameter and consisted of nodules from the size of a pin's head to that of a bean, many of which were confluent, others discrete and well bounded from the sound skin. They were raised about an eighth of an inch above the level of the skin, were flat on the surface and many of the larger lesions showed a papillomatous element. The color was a pale red. Some of the le-

sions were covered with crusts and a slight oozing occurred when these were removed. In some parts of the patches the lesions had joined to form irregular plaques and portions of rings. According to the patient's story, none of the lesions had ever disappeared spontaneously. The patient's general condition was good and beyond some pruritus and tenderness the lesions were not especially sensitive.

This patient presented himself rather irregularly and it was not possible to study his case so carefully as the preceding one. The lesions proved resistant to many forms of treatment. At one time they seemed to be improving under the iodide of potash, but this improvement soon came to a standstill. Finally freezing with solid carbon dioxide was resorted to as in the preceding case with good results, but the lesions had not entirely disappeared when the patient was last seen. Fortunately it was possible to obtain a generous amount of tissue for microscopical examination.

HISTOLOGICAL EXAMINATION. Pieces were excised from this case for microscopical examination on June 9, 1909, and again on May 9, 1910. The piece first excised represented a small papule lying in the midst of cicatricial tissue, presumably showing the earliest beginning of the process. The limits of the papule were clearly bounded by the cicatricial tissue, the papillæ being wholly wanting. There was a marked hypertrophy of all the layers of the epidermis in the affected area, the interpapillary prolongations being increased in club-shaped masses, without, however, any signs of constriction. There was much hypertrophy of the horny layer, which was separated at the outer part into scales and lamellæ, with numerous deeply stained nuclei of the epithelial cells retained. In many places these round, deeply stained nuclei in the horny layer were surrounded by a capsule-like envelope with a clear space outside so that they recalled the modified epithelial cells found in *keratosis follicularis* (Darier's disease). A distinct stratum granulosum could not be made out. The rete was increased in thickness, especially in the central sections of the small lesion examined. There was a marked mitosis, seen in places throughout all the layers of the rete. The cells were enlarged, with nuclei very much swollen, but taking the stain quite clearly. The "clumping" process was very marked in this early lesion, sometimes five or six nuclear outlines being welded together in one enlarged cell. Vacuolization, as seen in Paget's disease, was present to a great extent in the upper rete layers in the centre of the lesion, and there were distinct signs of œdema in the latter cells. Often a nucleus in mitotic division was seen separated from the cytoplasm by a clear space; often two or more clumped nuclei were situated in the vacuolated cell.

The changes in the corium were confined to a moderate enlargement of the superficial vessels and to an equally moderate collection of cells about the vessels. The largest collection of cells was found in the centre of the lesion immediately below the epithelial changes. The cell infiltration was composed chiefly of small cells with a narrow rim of cytoplasm. Sometimes nothing but the deep-staining nucleus could be made out. Interspersed were some larger cells evidently of mesodermal origin and a moderate number of plasma cells. The latter were of small size, not nearly so large as those heretofore described, and none was seen containing more than one nucleus.

The lesion excised in May, 1910, was much larger and deeper than the preceding and represented an older and more developed portion. The histological appearances were so very similar to those of the more advanced lesions of Case 1 that a detailed description seems superfluous. In the epidermis the marked acanthosis, the œdema, the presence of mitosis, and of amitosis, were very apparent. In the corium the enlargement of the vessels and the presence around these structures of a cell infiltration consisting essentially of plasma cells were quite as prominent features as before. In fact the plasma cells in the immediate vicinity of the vessels were very large, often containing two nuclei. The mass about the vessels was made up practically of plasma cells, the small cells of the lymphoid

type occurring in groups at a little distance. Also, the rarefaction of the connective tissue of the papillary layer was plainly seen.

CASE 3. (Darier.) The patient, a woman of 68, was first seen on March 4, 1912. She was a native of Burgundy and had had for more than 10 years crusted plaques, of an undetermined nature. The patient was seen but once, so that an elaborate description was not possible. She was a woman of weak constitution, but by no means cachectic. Three cutaneous lesions in a state of activity were noted, together with a cicatrix.

1. On the left buttock there was a plaque, of the size of the hand, of polycyclical contour, its edges made up of nummular brown crusts, its centre cicatricial, and of varied tints. At first sight one would get the impression of an ulcerative tertiary syphilide, of tubercular and circinate type. On further examination it was seen that the crusts were formed of epidermic lamellæ infiltrated with dried serum; beneath them there were no signs of pus or of ulceration, but a red, eroded surface, smooth or slightly papillomatous in places.

2. On the anterior border of the right axilla there was an oval plaque the size of a hen's egg, which had the appearance of a cornified papilloma, or a nævus verrucosus. Pieces of hyperkeratotic crusts could be detached from it with some difficulty, of a thickness of 8 to 10 millimetres. This exposed a red, bleeding, sharply bounded surface. There was no induration of the underlying tissues.

3. The third lesion was situated on the right back, at the level of the lower ribs, and represented an elevated tumor, of the form and dimensions of a macaroon, more than a centimetre in thickness, of somewhat irregular surface, violet colored, and covered with a thin crust. It was of hard consistency and projected from an eroded and vegetating plaque. Corresponding to this tumor there was a single enlarged gland in the right axilla, firm and movable, of the size of a small walnut.

4. In the left groin there was a white cicatrix, soft and not adherent, produced by the excision of a former lesion probably similar to the present plaques.

There was no sign of syphilis, tuberculosis, or other disease. It was ascertained that this patient had suffered from an intermittent seborrhœic eczema since childhood. The three active lesions had appeared subsequent to the excision of a first lesion, that of the groin. They had varied in acuteness from time to time, but had never disappeared. There had never been any induration, ulceration, or enlargement of the lymphatic glands. Treatment had been without result except a possible amelioration of the dorsal lesion by radio-therapy.

A bit excised for examination yielded histological results which warranted the advice to excise completely all of the lesions. This was done; good cicatrization was reported, with the exception of a small remaining crust over the lesion of the back. No other lesions had appeared.

CASE 4. (Darier.) A woman of 39 years, a domestic servant, was admitted to the Hôpital St. Louis, June 10, 1913. Typhoid at the age of 12 years, no history of syphilis or tuberculosis. Four years previously a warty patch had appeared on the internal aspect of her right ankle, and had slowly enlarged. It was treated by various specialists by various methods, including the X-rays, but without effect. Three years previously she had been operated on for uterine fibromata, and had had a phlebitis of both lower extremities.

On examination a dozen lesions were found upon her skin, very variable in appearance. The inner aspect of the right ankle was the seat of the most important lesion,—a plaque of irregular form and polycyclical contour, made up of a central eroded projection, which constituted a tumor, surrounded by more or less confluent, nummular papules.

The central tumor was formed of three lobes, was of the size of a broad bean or a small chestnut and was from 6 to 8 millimetres in height. It was covered with a thin, adherent crust, beneath which was found a red, eroded, non-bleeding surface, somewhat irregular. It was of firm, almost hard, consistency.

The rest of the plaque was formed from the confluence of flat, discoid, papular elements, varying up to the size of a 50-centime piece. They were rounded, oval or square, sharply outlined, of firm consistency, with a smooth, flat surface, sometimes slightly scaling at the centre.

There was no induration beneath this plaque, which was freely movable over the underlying tissues. It was only slightly sensitive to pressure.

Three other varieties of lesions were noted.

1. Red and scaling patches, sharply circumscribed, flat, level with the normal skin and covered with fine, white, adherent scales. The skin was neither thickened nor indurated, and seemed on the contrary slightly atrophic. One of these patches was situated on the abdomen near the umbilicus, and measured $3\frac{1}{2}$ by 2 centimetres. Two other similar patches, but smaller, were situated on the right side of the trunk.

2. Yellow patches, oval and sharply bounded, covered with fine scales, of the size of a fingernail, in which the skin appeared slightly atrophic.

3. Finally there was a brown spot on the back, without redness or desquamation, of the size of a two-franc piece, and sharply bounded.

These patches were mostly unknown to the patient, as they caused no abnormal sensations. The mucous membranes were intact, and there was no enlargement of the lymphatic glands.

The treatment of the lesion of the ankle consisted in radiotherapy in strong doses. At the end of six weeks the tumor had diminished one-half; at the end of two months and a half it had disappeared, without appreciable modification of the papular disks. This treatment, however, probably on account of an error in dosage, had the effect of producing an ulcerated dermatitis, which was very painful and resisted treatment by applications. It was then decided to destroy the ulcer by air superheated to 600° under anæsthesia, which cured the pain and soon healed the ulcer. No change had been produced in the spots.

CASE 5. (Darier-Danel.) The patient was a man of 65 years, who exhibited, when seen, the following lesions:

1. An oval ulcer of the forearm, granulating and bleeding freely, which had existed for six months. It was situated upon a large cicatricial surface.

2. Papulo-squamous lenticular lesions, with infiltrated base, scattered over or grouped upon this same cicatricial surface. These lesions had existed for 40 years, and it was their recent transformation that had given rise to the ulcer.

3. An enlarged right axillary lymph gland. While the patient was under observation, this gland had enlarged, had broken down, and assumed the appearance of a rapidly progressive malignant tumor. This axillary tumor proved to be an epithelial cancer, as shown by the histological examination.

HISTOLOGICAL EXAMINATION. Cases 3, 4 and 5 by Darier (*résumé*). In all the lesions examined by Darier, in the simple spots of his Observation II (Case 4) as well as in the lenticular or discoid lesions, the hyperkeratotic and crusted patches, the vegetating lesions, and even in the epitheliomatous lobules of the invaded gland, there was found the same epithelial lesion (depicted in his Figure 3).

This lesion consists of a parenchymatous œdema of the Malpighian cells, with "altération cavitaire"; of divers alterations of the cells and of their nuclei, which latter become irregular and even deformed and distorted; and of a vitiated keratinization (dyskératose) which is shown by the presence in the horny layer of bodies, "globes" or "corps ronds." There are also lesions in the papillary layer of the corium.

Describing in detail the histology of the numerous pieces of tissue studied from his two personal cases, Darier notes:

1. The typical lenticular or discoid lesions.

The epidermis is as a whole markedly thickened, the basal layer being sometimes quite normal, in other places containing vacuolated cells, either dwarfed, or very large and deformed. The rete has lost its normal appearance and is composed of

unequal cells, many having a clear perinuclear space, with nuclei either retracted, deformed, or of very exaggerated size, and often 2 or 3 in number. Besides the "altération vacuolaire" of the endoplasm, the exoplasm of the rete cells is not especially altered and the filamentous structure is retained, the cells not being detached from one another. Here and there enormous elements are seen, four or five times as large as an ordinary Malpighian cell, more or less dropsical or globular, sometimes appearing to be intracellular or surrounded by a double membrane; they contain a nuclear mass which is sometimes a fusing of from four to eight nuclei, sometimes a mass of nuclear granulations. Exceptionally hyaline masses are seen which are evidently cells that have become entirely cornified or colloid. The horny layer is thickened and often raised up in lamellæ, the horny cells being in some places devoid of nuclei, in other places parakeratotic, while it is not uncommon to find here and there round or ovoid corpuscles, sometimes encapsulated. The horny layer may be dry and scaling, or infiltrated with serum so as to form crusts. The papillary layer is the seat of a diffuse cellular infiltration, sharply bounded below, composed of lymphocytes and swollen connective tissue cells. Polynuclear leucocytes are almost absent. The blood vessels are often somewhat distended.

2. Flat or slightly elevated patches, sharply bounded.

These were observed in Darier's Observation II (Case 4). The horny layer and rete cells are three or four times thicker than normal. The interpapillary prolongations were much increased in size, the basal cells contained much pigment. These lesions were characterized by an alteration of the Malpighian cells, slight in amount, but almost general. The cells were small and irregular in their arrangement. The protoplasm was oedematous, the nuclei, often contracted or very much enlarged, were usually surrounded by a clear space. This vacuolization was especially apparent in the granular layer. Round bodies, nucleated or not, could be seen in varying numbers in the horny layer. There was a moderate increase of cells, usually lymphocytes, in the papillary layer.

3. Simple hyperkeratotic plaques.

In his Observation I (Case 3) several of the lesions excised showed an intense hyperkeratosis composed of a stratification which was partially parakeratotic, in which occasionally dyskeratotic cells in the form of ovoid or rounded bodies could be distinguished. The rete was of unequal thickness, sometimes thinned, especially in places where there was the greatest hyperkeratosis. The papillary layer was abundantly infiltrated with cells, especially plasma cells.

4. Hyperkeratotic and vegetating plaques.

These represented the beginning of epithelial proliferation, and showed a thick crust composed of hyperkeratosis, parakeratosis, vesicles, and a network infiltrated with dried serous exudation; under this was a very much thickened and very irregular epidermis, proliferating both toward the surface and downward. The granular layer was wanting except in certain places. The rete presented in certain of the proliferating branchings a very marked parenchymatous oedema, and contained cells of irregular distribution, deformed and distorted, with nuclei often clubbed or multiple; in other branchings the elements were less altered and the dyskeratotic cells were isolated. The appearance of these epithelial proliferations was very similar to what one sees in arsenical keratosis, chronic X-ray dermatitis and xeroderma pigmentosum, when the lesions are about to become epitheliomatous. The papillary layer was invaded by the epithelial proliferation, and there were remains of a cellular infiltration of plasma cells. The corium below was atrophic.

5. Stage of cancer.

Examination of the axillary lymphatic gland in Darier's Observation I (Case 3) showed that the atypical proliferation just described was the beginning of a transformation into a malignant tumor. This gland, enormously increased in size, was plainly cancerous. The epithelial nests were composed of cells of the Malpighian type, still recognizable despite the very marked changes that they showed. These

cells were very unequal and irregular, often oedematous and vacuolated, with small or large nuclei, some of which were deformed or multiple; some very large and distorted cells were also seen. In short, the alterations of these cells were identical with those of the cutaneous lesions from which they were derived.

CASE 6. (Bowen. Not previously reported.) This case was referred to me by Dr. G. A. Pudor of Portland, on Nov. 9, 1914. The patient was a man of 51, a druggist, native and resident of Maine, married, without children. Nothing of importance could be discovered in the family history. According to his assertion, his father had died of "softening of the brain," his mother at 80 years, of old age. Seven or eight years previously he had been admitted to a Boston hospital, and kept under observation for some time on account of an obscure stomach trouble, but nothing serious had been found, and he had recovered completely. There was no history of syphilis or tuberculosis. He was not of a robust type, but was fairly well nourished. He described his temperament as a distinctly nervous one. The lesions of the skin had begun *thirty years previously*, as a small papule on the chest at the site of the present lesion of largest size. This had gradually increased in size and the numerous smaller lesions had gradually appeared subsequently. He had never been free from the affection since its beginning.

When seen, some dozen or more lesions were discovered scattered over the trunk, front and back. The largest and most conspicuous lesion was situated on the right side of the thorax in front, taking in the region of the nipple. It was an irregularly rounded plaque which measured about 6 inches in its various diameters. It was scaling over most of its extent, superficial and sharply bounded. As a whole it was only slightly reddened. The upper part had a distinctly elevated rim, not wholly continuous, with ill-defined papules more or less confluent. This papular elevation or rim was of very firm consistency, and the papules when put upon the stretch were whitish and somewhat translucent. In the lower part of the patch neither the raised edge nor the papules were seen, but here, too, the lesion was sharply bounded from the normal skin, and represented a scaling, slightly atrophic surface, without perceptible induration. In the central portions of the patch there were islands of superficial cicatricial tissue and atrophy, and scattered here and there over this cicatricial tissue and over the scaling surface were papules varying in size from that of a small pea to somewhat larger, of the same character and appearance as those described as constituting the upper margin of the lesion. This patch had been treated recently by an ointment of resorcin 3% and sulphur 6%, in lanolin, and was said to have been not long before in an ulcerated condition. It was in this place that the original lesion had occurred 30 years previously, and at no time had there been a complete disappearance of the lesions, as has been said.

All of the other lesions, to the number of about 12 or 15, were of quite a different character from this lesion upon the chest. They were confined to the trunk, front and back, being scattered irregularly over these regions, but most of them were on the shoulders and back. They were of a papular and nodular nature varying in size from $\frac{1}{4}$ to 1 inch in their long diameter, a few exceeding the latter dimension. Their shape was elongated or irregularly rounded. They were of a faint reddish color; all were covered with a crust, quite firmly adherent, which was evidently complicated in structure, showing distinct evidence of hyperkeratosis. The lesions were slightly elevated above the surface of the skin, and very slightly indurated, without a hyperæmic areola surrounding them. These lesions were remarkably similar in appearance, varying chiefly in their size.

None of the lesions were the cause of any abnormal sensations, except the inconvenience and soreness of the patch on the chest, when it had been in an ulcerated state. The mucous membranes were normal. In the right axilla there were one or two slightly enlarged lymphatic glands. In other situations no enlarged glands could be detected.

It should be emphasized that there was a great difference clinically between

the large original plaque on the chest and the smaller crusted lesions of the back and shoulders. It must be remembered, however, that the former had had recent and vigorous treatment, while the latter had not been actively attacked. The lesion upon the chest suggested at once a superficial epithelioma, from the hardness and glistening white color of many of the nodules and from the raised edge and chronicity. The papular and nodular lesions, covered with hyperkeratotic crusts, however, were of a very different appearance. To one who had studied over a long period Cases 1 and 2, the lesions of Case 6 at once suggested, and in a very vivid manner, this precancerous dermatosis. Apart from that, a syphilide of late tubercular type came to one's mind. Dr. Pudor, who had seen the patient at various previous times, wrote to me that he thought at first that the chest lesion was a syphilide. Later the picture changed, the lesion beginning to ulcerate. The patient's own statement that the lesion of the chest had originally and for a long time had the same appearances as the lesions of the back and shoulders, was emphatic and reiterated.

HISTOLOGICAL EXAMINATION OF CASE 6. Two pieces were excised for microscopical examination, one a papular lesion from the shoulder, the other a nodule from the upper indurated rim of the large lesion of the skin of the chest.

1. The papular lesion from the shoulder showed a rete much increased in size, the interpapillary prolongations dipping deeply into the corium. They were rounded, bulb-shaped, and in places confluent. The germinative layer was practically normal. Immediately above this layer the epithelial cells began to lose their normal arrangement and to present a disordered appearance. The vacuolization observed in the previous cases became well-marked here, and the "clumping" of the nuclei also. A few instances of hyaline bodies surrounded by a "membrane" were to be seen, but oftener hyaline centres with cornified periphery, in all gradations up to appearances very similar to epithelial globes. There was some œdema of the rete, and an occasional polymorphonuclear leucocyte, with some karyokinesis. Some of the nuclei stained very deeply, others lightly. The granular layer was increased in places, in others entirely wanting. In places the cells with enlarged nuclei and vacuolization could be traced up into the horny layer, without undergoing a transformation into true scales. The horny layer was thickened and detached in lamellæ in places. In the horny layer could be seen at intervals hyaline-appearing, round bodies, and other rounded masses corresponding to the beginning epithelial globes described as occurring in the rete.

In the corium the papillæ were broadened and elongated. The papillary layer contained enlarged blood vessels about which was a dense cell collection of small, mostly irregular, rounded cells, with deeply staining nucleus, sometimes with a thin rim of cytoplasm. There were a few eosinophilic cells, and a moderate number of plasma cells, together with large oval and rounded connective tissue elements.

2. Examination of the nodule excised from the large plaque of the chest showed, as will be seen by Fig. 4, a typical epithelioma. At the edges of the lesion, where the process had not advanced, the enlarged epithelial prolongations were found to contain the vacuolated cells, enlarged and misshapen nuclei, and hyaline bodies with membranelike periphery, as in the sections from the papule from the shoulder. The proliferating epithelium seemed to start both from the interpapillary prolongations and from the follicles. There was a certain amount of karyokinesis. There were many epithelial globes, in all stages of keratinization, from enlarged cells beginning to undergo an advanced keratinization to complete concentric nests of horny cells. In the epithelial islands, cells in abundance, that had individually succumbed to abnormal keratinization, were to be seen. Many of the epithelial cell nests had undergone a hyaline or corneous transformation in their centre.

In view of the histological examination, thorough removal and destruction of all the lesions was advised, and this was done by Dr. Farrar Cobb, who excised the

lesion of the chest and covered the wound by a plastic operation. All of the smaller lesions were also excised and the base cauterized with the paquelin cautery. The enlarged glands of the right axilla were dissected out, but they were not found to be affected, on microscopical examination. The wounds healed well, but several months later the patient returned to Dr. Cobb, suffering from a lymphangitis and enlarged supraclavicular glands of the right side, which on operation proved to be due to compression from the cicatrix, with no signs of a return of the cancerous process.

It will be conceded, I think, that these six carefully observed and studied cases constitute a type of cutaneous disturbance not hitherto recognized. It may be reasonably predicted, also, that such examples are more common than has been hitherto recognized, and that further instances will be observed and published. Histologically, they are well marked. Clinically, a positive diagnosis is not possible without the aid of a microscopical examination, as is emphasized by Darier, although my Case 6 was at once held in the greatest suspicion before the histology was ascertained. It seems to me probable, if these cases are less uncommon than has hitherto appeared, that they have usually, when seen by competent observers, been taken for syphilis. Cases 1 and 6 were so regarded by skilled dermatologists on superficial examination.

From a study of these six cases, it will be seen that the affection is of an eminently chronic nature. In two of the cases the beginning dated back nineteen and thirty years, respectively. Four of the cases were in males, two in females. It may apparently attack any portion of the integument and begins as a firm papule, pale red or nearly of the color of the normal skin. This papule is covered by a thickened horny layer, which may become excessive, and usually is combined with a serous exudation to form a cornified crust. These papules increase to form lenticular, or rounded, nodular lesions, which may remain discrete, or often tend to become grouped or confluent. When the crust is removed, the surface beneath is found to be red and oozing, granular, and sometimes slightly papillomatous in appearance. In one of the cases (Darier's Observation II, Case 4) rounded or irregular, sharply bounded, scaling or atrophic-looking, non-indurated patches were observed, which showed histologically the same structure as the typical crusted nodules. Excision or complete destruction of the lesions, with a resultant cicatrix, seems to be the only cure. Radical treatment is further indicated by the fact that a cancerous transformation has been observed in three of the six cases.

In his previous article ¹ it was pointed out by the writer that,

¹ *Jour. Cutan. Dis.*, May, 1912.

although no signs of cancer had as yet appeared in the two reported cases, they evidently belonged in the class of so-called precancerous dermatoses, and that histologically they offered most points of resemblance with Paget's disease of the nipple, although differing essentially from that affection in their clinical attributes.

It was a satisfaction, therefore, to find these conclusions confirmed and amplified by so high an authority as Dr. Darier.

In the year 1900 Darier proposed the name "dyskératose"² for a lesion of the epidermis, in which a certain number of Malpighian cells become differentiated from the rest, and undergo a vitiated evolution, which produces a modified keratinization, imperfect and premature. These dyskeratotic cells are seen in the horny layer in the form of "grains" and "corps ronds," etc., which can easily be distinguished from the normal horny cells as well as from the parakeratotic cells. This condition of dyskeratosis is found in a group of affections for which the title "dyskératose" is appropriate, and include: 1. Psorospermosse folliculaire végétante (Darier's disease). 2. Paget's disease of the nipple. 3. Molluscum contagiosum. 4. To these must now be added, according to Darier, "The precancerous dermatosis of Bowen."

The nature, cause and ætiological significance of this "dyskératose," Darier admits to be unknown, nor has it been shown that the affections in which it is present are due to the same biological process; nor that this "dyskératose" is the primitive lesion from which the other lesions, such as the cellular infiltration of the papillary layer, the papillomatous element, and the proliferation of the rete, are derived. It is, however, a distinctive histological lesion which is competent to confirm a clinical diagnosis, and probably warrants us in claiming a certain relationship between the dermatoses in which it occurs.

Darier has pointed out that the chief interest of this dyskeratosis lies in the fact that it occurs in the cellular lesions of certain cancers, especially in most of the prickle-celled epitheliomata. Also, the dyskeratotic dermatoses are clinically associated with cancer, as is most marked and apparent in the case of Paget's disease of the nipple. The new dyskeratosis under present discussion is another instance. With regard, however, to Darier's disease (psorospermosse folliculaire) and molluscum contagiosum, Darier is unable to cite any instance of their transformation into cancer, as he does not accept Wende's¹

² *La Pratique Dermatologique*, i, p. 106.

¹ WENDE. *Jour. Cutan. Dis.*, December, 1908.

PLATE XLVII.—To Illustrate Article on Precancerous Dermatoses: A Sixth Case of a Type Recently Described, by JOHN T. BOWEN, M.D.



Fig. 1.

Case 1. Copied by Darier as giving an almost perfect idea of his Observation 1, Case 3.

PLATE XLVIII.—To Illustrate Article on Precancerous Dermatoses: A Sixth Case of a Type Recently Described, by JOHN T. BOWEN, M.D.

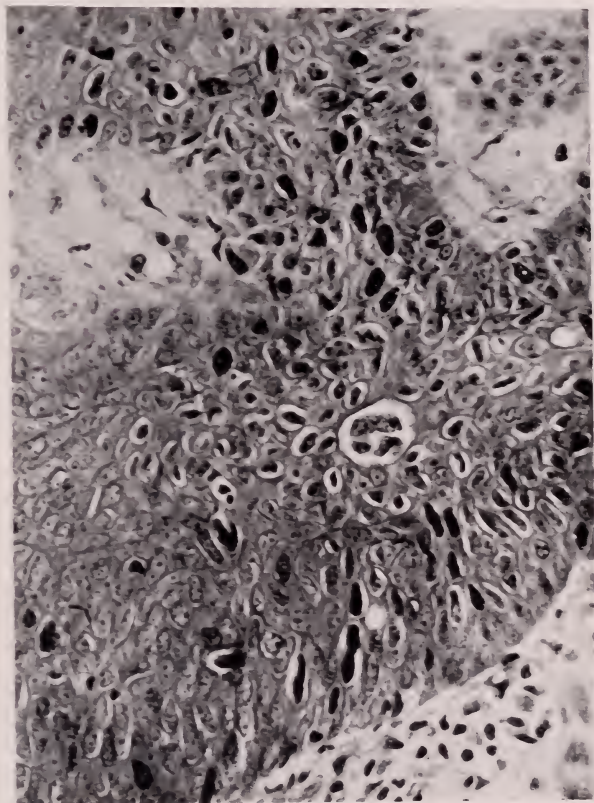


Fig. 2.

Case 6. \times —375. High power. Showing confusion of rete cells, vacuolization, unequal size of nuclei, large cells with "clumped" nuclei and as if surrounded by a membrane (pseudo-coccidiæ), etc.

PLATE XLIX.—To Illustrate Article on Precancerous Dermatoses: A Sixth Case of a Type Recently Described, by JOHN T. BOWEN, M.D.

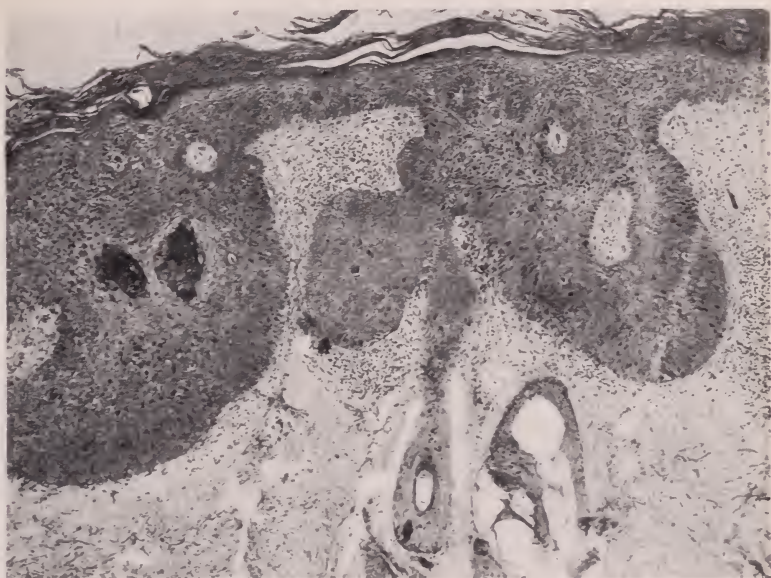


Fig. 3.

Case 6. \times —60. Low power. Hyperkeratosis, proliferation and thickening of rete, vacuolization, and cells appearing as if surrounded by a membrane.

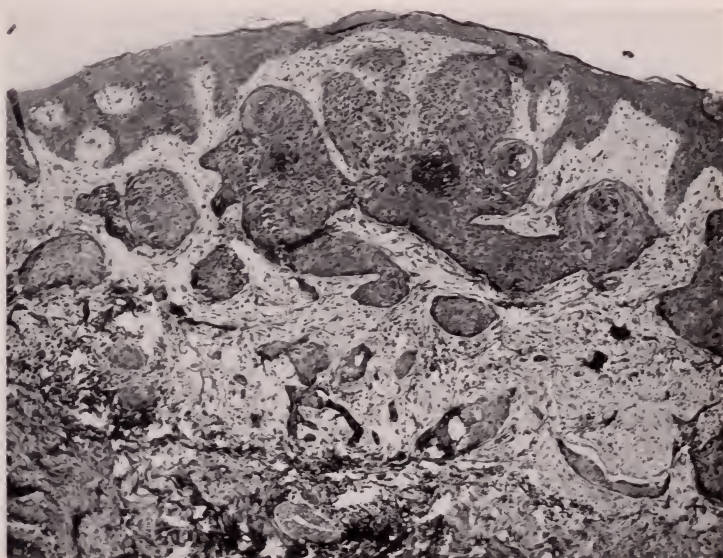


Fig. 4.

Case 6. \times —60. Lesion from chest showing stage of epidermoid cancer.

case of keratosis follicularis ending in multiple epitheliomata, as proved by his clinical or histological description. In a word, he considers that two of his four forms of dyskeratosis (la maladie de Paget et la dyskératose de Bowen) are frankly precancerous affections; the two others (psorospermosis and molluscum contagiosum) cause epithelial proliferation, but without a malignant sequel.

On the other hand, according to Darier, it would not be correct to say that every precancerous affection of the skin is a dyskeratosis, as in leucoplakia, keratosis senilis, xeroderma pigmentosum, keratosis arsenicalis, and professional X-ray dermatitis there is no true dyskeratosis of the initial lesions, although at the time of transformation into epithelioma, dyskeratotic lesions may, it is true, appear in great abundance.

Darier concludes that "la dermatose de Paget" and "la dermatose de Bowen" occupy a place by themselves among the precancerous affections of the skin. While dissimilar in many respects clinically, they are alike in presenting a vacuolization of the Malpighian cells, together with a confusion and inequality of these cells, nuclei misshapen, multiple and "clumped," and a number of rounded, encapsulated bodies, which can be traced even into the horny layer. Furthermore, there is in each a cellular infiltration with plasma cells in the papillary layer of the corium, and each is a chronic affection which eventuates in cancer. He points out, however, with great clearness, an important histological difference, namely, that the hyperkeratosis so characteristic of the affection under discussion is made possible by the retention of the filaments of union between the rete cells; whereas in Paget's disease, the dissolution of these filaments prevents the formation of a coherent horny layer. Darier says:

"Mais on doit relever une différence histologique importante laquelle, comme de raison, conduit à une différence clinique des plus apparentes. Dans la maladie de Paget le désordre des cellules malpighiennes et leur œdème parenchymateux s'accompagnent régulièrement d'une dissolution de leur appareil filamenteux ou acantholyse; les cellules épidermiques, ou la plupart d'entre elles tout au moins, n'étant plus reliées entre elles par leurs filaments d'union, ne peuvent plus constituer un revêtement continu et une couche cornée cohérente; la surface atteinte est donc érosive, suintante ou croûteuse, exulcéreuse même par endroits, mais jamais elle n'est hyperkératosique.

"La maladie de Bowen au contraire est essentiellement hyperkératosique; parfois une exsudation de sérosité vient imbiber la couche cornée et la transforme en squame-croûte; mais toujours et à tous les stades, la couche cornée, parakératosique ou non, existe, et peut prendre même une épaisseur énorme. Le fait s'explique aisément: l'appareil filamenteux qui relie les cellules malpighiennes persiste et cela même quand le désordre et l'œdème parenchymateux sont très accusés."

With almost all of Darier's views I am in hearty accord. It is, however, difficult to understand why molluscum contagiosum should be grouped with the class of dyskeratoses, and Darier himself admits that this must be done with some reservation. Darier's disease (psorospermose), Paget's disease, and the group of cases we are considering have unmistakable histological resemblances, and the condition so well described by Darier as dyskeratosis is common to all, and of prime diagnostic importance. It is, however, the *degree* in which this change is present that is characteristic of these affections, as it occurs to some extent, as has been pointed out, in arsenical keratosis, keratosis senilis, Roentgen-ray dermatitis and xeroderma pigmentosum, as well as in spinocellular epitheliomata.

THE PATHOLOGY OF SYPHILIS.*

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IN order to successfully combat the syphilitic invasion it is important not only to be informed as to the possibilities of the therapeutic agents but to have a thorough knowledge of the nature of the infection; the reaction which it calls forth in the tissues and the resulting changes which follow.

It must be borne in mind that during and even before the secondary period of the disease the organisms are in the general blood and lymph streams and locate themselves at this time about the nutrient vessels of the aorta, in bone, in the central nervous system, in the glomeruli of the kidney or in other viscera. The special tissue selected by the spirochætæ may be purely accidental or possibly may be governed by affinities for the strain. While confirmatory laboratory evidence up to now is far from satisfactory, there are certain clinical reasons for the belief that special strains have different invasive powers and may limit their activities to one set of tissues. Patients with syphilis of the nervous system, as a rule, deny the secondary rash. The subjects of extensive skin syphilis are not often afflicted with nerve syphilis and patients with luetic osteitis and periostitis are not so often afflicted with skin

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lesions. The important factors to be kept in mind are the possibilities of the disease in the secondary period as related to the destructive and incurable lesions which manifest themselves years afterward.

If spirochætæ are deposited about the vasa vasorum of the aorta in the secondary period of syphilis they may yield to the natural defenses of the body or be reached by specific drugs. They may be completely destroyed or their activities only delayed by imperfect medication. In the latter case it may be years before the changes in the aortic walls are sufficiently advanced to cause symptoms or physical signs. When such changes are recognizable it may or may not be possible to influence the condition by specific treatment. The early inflammatory reaction about the vessels has produced sclerosis of the aortic wall and to these changes is added the mechanical action of the heart on the weakened walls of the vessel.

The same holds true of the central nervous system. Investigations during the past twelve years have shown that the nervous system is invaded early in the disease, probably at the time of the spirochætæmia, that a meningitis is produced which may manifest itself clinically during the secondary stage, or remain latent for a long period, or prepare the soil for an extension of the process or new invasion in later years. It has been estimated by different workers that involvement of the central nervous system in the secondary stage takes place in from 20 to 80 per cent. of patients as shown by abnormal findings in the spinal fluid. My own opinion is that although single abnormalities, as an increase in cells or globulin, may be present in many early cases, they are only transient manifestations and that probably no larger percentage of luetic individuals show all phases positive in the spinal fluid than later develop frank disease of the nervous system. In a series of punctures made on my clinic and hospital cases with early secondary lues, less than 20 per cent. evidenced any abnormality. Whether, as Nichols has suggested, we are dealing in nerve syphilis with a specially invasive strain of organisms or whether the choroid plexus acts as a filter or barrier to the spirochætæ I am not prepared to say. Analogies are found in tuberculosis and typhoid fever in both of which diseases the organisms circulate at times in the blood, but only rarely are present in the spinal fluid.

In human syphilis inoculation is followed either by a local reaction at the point of entry of the organisms or the spirochætæ gain access directly to the blood and lymph streams without producing any demonstrable change *in loco*. In the first event the organisms

find lodgment in the interepithelial lymph spaces and from here reach the perivascular lymph spaces, where, after becoming acclimated to changed nutritional conditions, they multiply. Even now a reaction is taking place on the part of the fixed connective tissue cells in this vicinity which increases in intensity until the height of the second incubation period with the full development of the chancre. The macroscopical appearance is varied. In one case only a herpetic lesion may be present, in another a papule or a slight erosion and again the classical Hunterian chancre, or its clinical characteristics may be entirely masked by a preëxisting chancroid or other cutaneous lesion. It is difficult to say whether this multiformity is dependent upon the immunity mechanism of the patient, the number of organisms, or upon the strain of the spirochætæ. Noguchi found certain definite differences in the morphological character of different strains isolated. This led him to divide the various specimens into the thicker and thinner forms and an average or normal form, the last being the most common and frequent. He found that the lesions in the testicle of the rabbit differed according to the variety inoculated, consisting either of a diffuse or a nodular type. Nichols also found that a strain isolated by him from the central nervous system presented different biological properties, without being in the strict sense of the word neurotropic. He applied to this strain the quality of invasiveness, based on the production in rabbits of lesions of the scrotum and testicle which were hard and necrotic in the centre, and a generalization of the infection as evidenced by lesions of the eye and skin. The organisms were thick in form and had a short incubation period corresponding to the thick type described by Noguchi. These results are of particular interest in view of the occurrence of syphilis of the nervous system in individuals infected at the same source, and the not unusual occurrence of conjugal and familial syphilis. The attempt of Jakob and Weygandt and others to produce a neurotropic strain in rabbits has not given uniform results, some rabbits showing a pathological condition of the nervous system; others not. Noguchi came to the conclusion that it was necessary to previously sensitize the animal in order to obtain involvement of the nervous system.

Just how soon after inoculation in the human subject the spirochætæ reach the satellite lymph nodes and the general circulation has not been definitely determined. Truffi claims to have found them in the nodes one and two weeks after infection. It has been demonstrated by animal experiments that the bone marrow and the testicle contain them before the appearance of the chancre. The

spirochæta pallida is essentially a lymph organism, but its generalization takes place in the early period through the blood stream, and from time to time it probably appears in the blood in the later stages of the disease. It has been recovered from the general circulation before the outbreak of the secondary exanthem, during the florid period, and in cases of latent syphilis.

There is now a widespread belief that with the dissemination of the parasites in the early period of the disease every tissue is invaded without, however, in all cases producing subjective or objective symptoms. It has been demonstrated that *spirochætæ* may remain in contact with tissues for long periods of time without exciting microscopical or macroscopical changes. Our knowledge regarding visceral involvement at the time of generalization is rather limited, but it is quite probable that lesions analogous to those found in the skin are present. As in these cases the interstitial tissues would more probably be involved, the lesions are superficial, tend to undergo spontaneous regression, and disturbance of function is therefore slight. Where, however, the intoxication is severe and analogous to that of the eruptive fevers the parenchymatous portion of the organs is affected, leading to more or less degeneration and destruction with consequent impairment of function.

It was formerly believed that the sequence of syphilitic eruptions was dependent upon the parasite and its virulence, but the relationship is no longer admitted. Modern research has interpreted the various manifestations as an expression of the immunity processes which begin to develop shortly after the introduction and multiplication of the organisms. Clinical and animal experiments have demonstrated that during the first incubation period a change is taking place in the skin and mucous membranes which renders them resistant to reinoculation under ordinary conditions. This biological change, to which the name anergy has been applied by Neisser, begins within a few days of the initial inoculation and is practically complete at the end of the second incubation period or time of the general eruption. If during this period reinoculation is practiced it is found that the inoculation period is shorter and that the lesion no longer develops in a typical manner. These phenomena are analogous to those described by von Pirquet under anaphylaxis.

Now, although super-infection is rare in the secondary stage, the immunity is found to be only relative, for if large amounts of the virus are inoculated deep under the epidermis, a lesion, although insignificant, will follow. The tissues are therefore in a state of

diminished susceptibility. If reinoculation is attempted in the tertiary stage, after a short incubation period a lesion of the tertiary type will be produced. This illustrates the "immediate reaction"—with an altered tissue reaction in the direction of hypersusceptibility. The pseudo-chancere or chancere redux is believed by many to be a reinoculation chancere occurring in the tertiary period and due to a new strain, although spirochætæ are not usually demonstrable in these lesions. With other clinical observers I take issue with this view as in my opinion the so-called chancere redux is a gumma occurring at or near the location of the original chancere. This is illustrated in the case of a patient who developed a hard nodule, not gummatous in type, in the median line of his upper lip at the site of an initial lesion which he had had eight years previously.

It may be said that in general the features of the pathological anatomy of syphilis are the same wherever encountered in the body, subject only to modifications by the tissue affected, namely, a granuloma having its origin in the perivascular lymphatic spaces.

The chancere shows in its very early stages a new formation of capillaries with an infiltration about these and the preëxisting ones of lymphocytes and plasma cells. If a lesion is examined in the early stages the infiltration is found sharply limited; in the later stages it is diffusely scattered throughout the corium. The endothelium of the capillaries is swollen and proliferated so that the lumen is narrowed or altogether occluded and in the larger vessels with an external coat there is an increase in thickness. Sometimes giant cells are found. The epidermis suffers secondarily and presents a varied picture such as atrophy, hypertrophy, erosion or ulceration. From the newly formed granulation tissue connective tissue is formed which later scleroses and leads to fibrosis. With the interference of the nutrition regressive metamorphosis takes place.

Secondary syphilis is characterized by a succession of eruptions.

The roseola or macular syphilide shows very few changes under the microscope. There is an erythema with dilation of the vessels of the papillæ and subjacent corium, with a sheathing of lymphocytes and plasma cells.

The papular or lenticular syphilide consists of a circumscribed lesion in the cutis made up of lymphocytes, plasma cells and fibroblasts, with the characteristic changes in the blood vessels. In lichen syphiliticus the process is closely confined to the pilo-sebaceous apparatus, extending into the corium along the hair follicle. These lesions usually show an abundance of giant cells.

The epidermis in secondary syphilides shows secondary changes.

With œdema there is a hyperplasia or acanthosis with parakeratosis or scaling. With pressure from the infiltrate there is thinning. In condylomata, owing to the excessive moisture, there is a marked papillomatous development. In pustular and suppurating syphilides extraneous inoculation with pyogenic organisms has taken place.

The pigmentary syphilide or leucoderma syphilitica owes its clinical features to chromatophores, the pigment passing from them to the basal layer of the epidermis.

Secondary syphilides usually undergo spontaneous involution. Microscopic residua may, however, persist for a long time and are probably evidence of the persistence of spirochætæ in these situations. It has been suggested that local relapses take place from these remnants, and this, of course, could only occur in the presence of organisms.

The gumma represents the type of lesion of the tertiary period. It shows the characteristic changes of endarteritis and panarteritis of the vessels, new formed as well as old, and an infiltration made up of lymphocytes, plasma cells, giant cells and proliferated connective tissue cells. The lesions of this stage differ from those of the earlier period in their destructive character. The tissue undergoes caseous degeneration in the center or it may be fatty or mucoid. The necrotic tissue is absorbed or discharged, resulting in the formation of cicatricial tissue.

The tubercular or nodular syphilide is a gumma situated more superficially in the corium. The serpiginous lesions of the tertiary period consist of nodules about the cutaneous vessels, of which a marked feature is thrombosis. The progressive character of the lesion may be due to this peculiarity.

Lymph Nodes.—Enlargement of the lymph nodes, especially regional, in connection with the chancre is with the latter one of the earliest objective symptoms of syphilis, occurring usually in one or two weeks. Although general adenopathy is one of the characteristic features of the secondary stage, it is frequently absent or so insignificant as to be overlooked. It is the expression of the general infection and is not proportional to the severity of the disease. It is usually transient, responding promptly to treatment. In the tertiary stage a condition is sometimes met with, simulating Hodgkin's disease. Such a case came under my observation with the following history: A man 40 years old developed in 1890 a chancre followed by secondaries. In 1895 he had fever, an enlarged spleen and swollen lymph nodes of the neck; a node beneath the lobule of the ear broke down. In 1905 he suffered from a relapse

and improved under specific treatment. In 1910 he had another relapse and in 1911 the nodes of the left groin and axilla also enlarged. He had several febrile attacks, with a temperature of 103 degrees Fahrenheit. His Wassermann reaction was positive. Under treatment the lymph nodes and spleen were markedly reduced; his temperature became normal and he gained in weight.

In the later stages of syphilis amyloid degeneration of the lymph nodes is also found as part of the general process.

Salivary Glands.—In the secondary period there is sometimes tumefaction of these glands, especially the parotid, resembling mumps. Several years ago a patient in the tertiary stage of syphilis consulted me for a diffuse hyperplasia of the parotid glands, the so-called Mickulicz's disease. He was thirty years old, infection dating back eight years. He had a marked interstitial glossitis that manifested itself by an enormous enlargement of the tongue with deep fissures and patches of superficial leucoplakia. There was a perceptible swelling of both parotids. Thus consistency was increased, the sensation imparted to the finger being harder than that of the normal gland. They were not tender. Under mercurial treatment the enlargement of the tongue gradually subsided until it assumed practically normal dimensions. The patches of leucoplakia and some atrophy remained. The enlargement of the parotid glands slowly regressed, but the impression made on them by the specific medication was slower than on the tongue lesions.

Æsophagus.—Occasionally the æsophagus is the seat of ulceration consequent upon a gummatous process. The lower portion appears to be the more favorite location, and suffers from stenosis in consequence of cicatricial healing.

Stomach and Intestines.—Little is known of an acute syphilitic gastritis, although it has been described. Virchow was the first to describe a chronic gastritis, the walls of the stomach showing a small round-celled infiltration and an increase in connective tissue. According to Neumann it is the most frequent manifestation of visceral syphilis occurring during all stages. Chiari found in 243 post mortems upon syphilitic subjects only two with definite stomach lesions. Gummata occur occasionally, usually affecting the intestine, either as circumscribed or diffuse lesions. The relation of syphilis to gastric ulcer is interesting as well as important. Lang believed syphilis to be the ætiological factor in twenty per cent. of cases of acute round ulcer resulting from syphilitic endarteritis, while the opinion of other authors is that ulceration is never produced except as the result of necrosis of a gastric gumma. My

own experience with ulcers of the stomach and intestine is limited to a few cases referred to me by my professional colleagues in which the diagnosis had been made and in whom the Wassermann was positive. The direct proof of the connection of gastric and intestinal ulcers with syphilis is difficult to obtain, and we base our knowledge mainly on the presence of a positive Wassermann. There is no way, in my opinion, of making a differential diagnosis between specific and non-specific ulceration of these organs. The treatment of such cases, of course, is that of ulcer in general, with the added antisyphilitic therapy. Just how much credit for the cure to give to the latter is problematical. The duodenum may suffer with the stomach, and such a case has been under my care. The lower part of the jejunum and the ileum appear to be the region most frequently attacked along the course of the small intestine. Both acute and chronic enteritis have been described, but the most important lesion is ulceration with its sequelæ. The gummata themselves are rarely seen. The ulceration terminates in perforation or cicatrices involving the greater part of the bowel and thickness of the wall so that more or less stenosis and sometimes obstruction ensue. Amyloid degeneration is also met with in the intestines.

In the large intestine the colon alone is sometimes the site of the disease, but it is the rectum that is especially liable to involvement, more so in women. Orth has referred this to infection by the secretion from the vulva. While chancre of the rectum occurs sometimes, ulceration from breaking down of a gumma is the commonest lesion. The loss of substance is frequently extensive and circular, so that marked stenosis results. It is usually in this stage that the patient first seeks advice, as the active lesion produces few symptoms. Perforation of the ulcer into the pelvis or vagina may take place. Periproctitis is common, and the pelvic peritoneum may be greatly thickened. There may be such an increase of pelvic fascia as to simulate a tumor.

Pancreas.—Syphilitic disease of the pancreas is rare. In adults pancreatitis is more common than gumma occurring as an induration similar to syphilitic cirrhosis of the liver with which it is almost always associated. It may cause a palpable tumor in the epigastrium and by compression of the pancreatic ducts and common bile duct give rise to characteristic stools and jaundice. Rolleston reported syphilitic obliteration of the bile ducts associated with an extreme interstitial pancreatitis. The accompanying illustration is from a case at the City Hospital, the patient, before death, developing a

marked jaundice from obstruction of the common bile duct. At autopsy an interstitial pancreatitis (Fig. 1) and syphilitic hepatitis were found.

Dr. John H. Larkin, Director of Laboratories of the Department of Charities, New York City, has in his collection an unusual example of hæmorrhage in the head of the pancreas obtained from a case with the following data: A man, aged forty-nine, with a definite syphilitic history. He had been under treatment for the past one and one-half years. He entered the hospital one year ago complaining of acute gastric pain radiating around the abdomen to the back and accompanied by depression and a feeling of exhaustion. After a rest in bed and under opiates for three weeks he gradually recovered. Two months later he re-entered the hospital with an attack of acute gastric pains, followed by severe depression and evident bleeding from some point. He failed to recover and died exsanguinated.

Liver.—Jaundice occasionally appears at the time of the cutaneous outbreak in the early secondary stage, the process in the liver probably being analogous to the one in the skin and giving rise to a catarrhal cholangitis. This sometimes develops into acute yellow atrophy. Rolleston collected twenty-eight cases of acute yellow atrophy in which syphilis was the ætiological factor. It is characterized by an acute parenchymatous degeneration running a rapid course and resulting in death. As to the incidence of syphilitic involvement of the liver, Flexner's analysis of 5,088 autopsy reports showed interstitial hepatitis in 42, perihepatitis in 16, gummata in 22, amyloid degeneration in 70 and syphilitic scars in 38.

Gummata may occur singly, but it is more usual to find them multiple. As they more frequently occur on the anterior surface at the junction of the right and left lobes, the condition is often diagnosed during life. They usually undergo caseation with replacement fibrosis and depending on the size and extent, scarring and deformity. In diffuse interstitial hepatitis the parenchyma is involved secondarily. In congenital syphilis a reaction is met with in both types of tissue. As the infection takes place through the portal vein the spirochætæ may reach the liver cells through the lymphatics. A diffuse hepatitis terminating in pericellular cirrhosis is most characteristic.

Spleen.—During the eruptive stage the spleen is often enlarged and by many authors this is considered a constant concomitant of secondary syphilis. Sometimes fever and anæmia are associated. In the later stages splenitis with increased connective tissue with

subsequently cicatricial contraction and a decrease in size is sometimes seen. Perisplenitis is frequently met with in cases showing other evidence of syphilitic infection and in congenital syphilis. In the tertiary stage single or multiple gummata may be found. They may attain a very large size and occur in connection with those in the liver. Scarring and fissuring result. Amyloid degeneration occurs diffusely or is limited to the Malpighian bodies. It is usually met with in old cases and especially in those with disease of the bones and the rectum. A syphilitic leucæmia is sometimes encountered. Hereditary syphilis is probably the commonest cause of splenomegaly.

Trachea and Bronchi.—Syphilis of the trachea and bronchi is insignificant in the early stages, being of the nature of a catarrh. In the later stages gummatous involvement gives rise to a serious condition, as ulceration takes place in a large percentage, and with perforation of the trachea or bronchus or large blood vessels, fatal hæmorrhage results. In other cases scarring and contraction leads to a stenosis. Connor reported a fibrous peritracheitis, the trachea and bronchi being surrounded by a dense mass of connective tissue, which not infrequently involves the recurrent laryngeal nerves. These lesions probably begin as gummata of the lymph nodes between the trachea and œsophagus. Syphilis of the lung is sometimes associated.

Lung.—Pulmonary syphilis is very rare and is not often recognized clinically. From the autopsy reports of the Johns Hopkins Hospital, according to Osler, the lungs were involved in only 12 cases out of 2,500, and according to Fowler only 12 such specimens were found in the London Museum and two of these were doubtful. In the acquired form of syphilis it occurs as a broncho-pneumonia, chronic interstitial pneumonia and gummata. In congenital syphilis so-called white pneumonia is the usual form.

Kidneys.—Syphilitic affections of the kidney occur during the early secondary as well as the late stage of both acquired and congenital forms of the disease. At the beginning of and during the early secondary stage it is not uncommon to find transient albuminuria which may be unusually intense in the absence of other symptoms as œdema or disturbance of the general nutrition. The urine may be loaded with albumin for weeks or months without developing signs in proportion to its intensity. According to Fournier, acute nephritis occurs in less than one per cent. of the cases; Spier places the estimate at four per cent. All the different varieties of acute and subacute nephritis may occur during the course

of the disease. These cases terminate in recovery or pass into a chronic tubular nephritis resulting in large white kidney, with the secreting structures chiefly involved. This type is very much like scarlatinal nephritis. It has been thought that the albuminuria and acute nephritis were due to the exhibition of mercury, and while it is unquestionably true that large doses will damage the kidney, its careful administration is usually without deleterious effect. The same is true of salvarsan.

In the later stages of syphilis nephritis is more common, and acute and chronic parenchymatous and interstitial as well as amyloid kidney are seen. The last two are the more frequent. In interstitial nephritis the organs are small and often irregular from cicatricial contraction. There is a great increase in the connective tissue of the kidney and the capsule, and the tubules are obliterated by compression. A marked endarteritis is present, the walls of the vessels being greatly thickened. Gummata are uncommon and usually occur as multiple lesions situated in the cortex or pyramids. They are attended by few symptoms, and the condition is not often diagnosed during life. A large solitary gumma may cause some confusion with a malignant growth. In congenital syphilis there is usually defective development of the kidney. In older subjects amyloid disease is frequent. Payne believed the granular kidney occurring in early youth was traceable to inherited syphilis.

Ureter.—Syphilitic affections of the ureter are extremely rare.

Bladder.—The bladder is not often involved, although gummata and ulceration have been described.

Urethra.—The urethra may be affected by syphilis in any stage. It is most common in the primary period when the infection may be inoculated at the meatus or in the fossa navicularis, often concomitantly with gonorrhœa, and the specific nature of the trouble overlooked. Mucous patches develop sometimes and in the tertiary stage a diffuse gummatous inflammation with phagedæna is more usual than the solitary gumma.

Testicle.—Although it has been shown from animal experiments that testicular tissue is one of the sites of election of the spirochætæ in early syphilis, symptoms referable to an orchitis in the secondary stage are rare indeed. In the later stages a diffuse interstitial inflammation (Fig. 2) or a localized gummatosis is found. There is usually a co-existence of both conditions with a preponderance of one or the other.

Prostate.—Very little is known of prostatic involvement in syphilis and the reports in the literature are very sparse. Power

records the case of a man, aged fifty-four, with gumma of the testicle and other signs of syphilis in whom he found an enlarged sclerotic prostate which under the microscope showed an hypertrophy of all its elements. Several other cases have been published but their syphilitic ætiology is not convincing as the patients also had had a gonorrhœal infection. In Groszlick's case the prostate was swollen to the size of a fist and became normal under mercury and iodides after a month. A few months later a relapse occurred which again yielded to antisymphilitic treatment.

Epididymis.—In the epididymis syphilitic inflammation attacks the head of the organ which is free from pain in contradistinction to gonorrhœa when the tail first and soon the entire epididymis is involved, with marked clinical symptoms. The nodules often disappear spontaneously.

Heart and Vascular System.—In syphilis of the heart the pericardium, endocardium or myocardium may be involved. It may exhibit itself as a hyperplastic infiltration or a gummatous inflammation with the attendant sequelæ. Syphilitic pericarditis usually manifests itself as a fibrous pericarditis involving only a small area or the greater part of the sac. Gummata are rare but have been met with as miliary lesions scattered over the surface. Syphilitic endocarditis in contradistinction to disease from other causes is only rarely found on the valves, affecting chiefly the left ventricle and the septum. Usually only one valve is attacked at a time and generally only one cusp. In the myocardium both fibrous and gummatous myocarditis occur, resulting in a weakening of the cardiac wall, hypertrophy and dilatation. Sudden death in patients suffering from cardiac syphilis is frequent.

The blood vessels throughout the body bear the brunt of the syphilitic infection, as the lesions originate in or about them. Disease of the arteries is very frequent and of serious import. Of the larger arteries, aortitis is the most important and grave, being responsible for about 75 per cent. of cases of aortic insufficiency in adults, a large number of cases of dilatation and aneurysm, a certain group of cases with angina pectoris and a persistent positive Wassermann in many cases of so-called latent syphilis. Owing to the frequency and the insidiousness of the condition, all patients should be examined for the possibility of its presence. It is exceedingly difficult of diagnosis in its early stages—as objective and subjective symptoms may be entirely absent with a circumscribed lesion in the arch or ascending part of the aorta and the radiograph is usually negative. It is only later, when more or less damage

has been done to the arterial wall as the result of sclerosis and dilatation, that symptoms referable to the condition manifest themselves. The site of election is in the ascending portion near the valves, from which point the process spreads to the valves themselves, and the arch. The thoracic portion of the descending aorta may also show patches of sclerosis and in extensive cases is always involved, the abdominal aorta rarely so. Grossly, the aorta has a characteristic appearance. Its inner surface is wrinkled and puckered with radiating ridges and sclerotic depressions between. Depending on the extent and age of the lesion there is more or less dilatation which may be uniform or fusiform, or there may be simple aneurysmal pouchings or a true saccular aneurysm. The wall of the aorta may therefore be found thin and translucent in spots, while it is dense and cartilaginous in others. The intima usually undergoes secondary hyperplasia and preserves its glistening appearance. Microscopically the affection has its origin in the vasa vasorum. These vessels show a thickening of their walls and a sheathing of lymphocytes and plasma cells. The disease invades the media where the histological picture of miliary gummata is encountered. A characteristic feature of syphilitic aortitis is the fragmentation and ultimate destruction and disappearance of the elastic tissue. The clinical symptoms depend upon the location of the lesions.

Syphilis of the vessels may involve the adventitia only, in the condition known as periarteritis. This is the result of extension from the surrounding tissues, and occurs especially in the cerebral arteries. The condition is known as a nodular periarteritis, and involves particularly the circle of Willis with nodular tumors in conjunction with gummatous meningitis or with numerous large gummata. An acute gummatous arteritis involving all the coats of the vessel is found in the neighborhood of gummata or independent of them. Perforation sometimes results. Obliterative endarteritis is common in the small and medium vessels with or without thrombosis. In the extremities this will give rise to intermittent claudication and sometimes gangrene. In the brain transient paralysis, monoplegias and hemiplegia.

Suprarenals.—In acquired syphilis amyloid degeneration is not uncommon. Interstitial changes also occur, as well as diffuse or focal gummatous inflammation. In congenital syphilis spirochætae are especially abundant, even in the absence of histological changes. It is not seldom that true gummata are encountered and they are then of the miliary type.

The accompanying illustration of gumma of the suprarenal (Fig. 3) in acquired syphilis is from a preparation made by Dr. John H. Larkin, who kindly permitted me to have it reproduced. The patient presented clinically the symptoms of Addison's disease. Jacquet and Sezary also published the case of a syphilitic patient with signs of Addison's disease which yielded to specific treatment. Two months later the man died from cerebral hæmorrhage. The suprarenals were found enlarged and fibroid and contained spirochætæ.

Thyroid Gland.—It is estimated that about one-half of the cases of early syphilis show swelling of the thyroid. Gummata are the condition best known, though they are rare. They may occur in both the new-born and in adults. In a case under observation by me a woman, of about fifty, suffered from a gummatous infiltration which also involved the overlying skin. There were no symptoms referable to the gland.

Pituitary Body.—Little is known of the involvement of this gland in the syphilitic process, except in the tertiary stage, when hypophyseal gummata have been met with, accompanied by symptoms of glycosuria.

Nervous System.—Although there is frequently a combination of processes, it is perhaps convenient to divide the pathological changes which occur in the central nervous system into a chronic hyperplastic inflammation, a gummatous inflammation, disease of the blood vessels and parenchymatous degeneration.

Meningitis occurs as a fibrous hyperplastic and a gummatous type. All three coverings of the brain may participate. In the dura it is sometimes the extension from an osteitis or periostitis. Where the meninges are primarily affected there is a diffuse gummatous infiltration usually combined with a fibrous hyperplastic meningitis. The leptomeninges in the great majority of cases form the starting point even where all three membranes are involved. In rare cases the arachnoid alone may be affected. Syphilitic meningitis is uniformly distributed on the base and convexity or it may be localized. In but few cases of syphilis of the nervous system does the base of the brain escape from a leptomeningitis or a pachymeningitis, the favorite site being the region of the chiasm and interpeduncular space, the optic nerve and the nerves of the eye muscles being especially frequently affected.

Gummata appear as smaller or larger single or multiple growths or as a diffuse infiltration. They are most frequently found in the dura on the convexity as well as the base of the brain. In the

latter situation they are often multiple in the neighborhood of the blood vessels. In the brain substance they appear in the cortex, usually in the region of the central convolutions but may occur anywhere. Gummata here, as elsewhere, begin their growth in the connective tissue of the meninges and blood vessels, the nerve structure itself only undergoing secondary changes.

The blood vessels in disease of the central nervous system may be affected in a purely mechanical manner both in the meninges and the nerve tissue, by the extension of the process to their walls, or by specific disease within the walls, leading to narrowing and obliteration of their lumen as described by Heubner. As a result of vascular disease there are marked disturbances of nutrition with sometimes necrotic softening in the area supplied by the vessels. The pons, medulla, large ganglia and internal capsule are more prone to softening than the cortex, where collateral circulation may be established. Through reabsorption of the necrotic tissue a secondary sclerosis results. Rupture of the vessels and hæmorrhage are also consequent upon vascular disease with or without aneurysmal formation.

The line of demarcation formerly drawn between cerebro-spinal syphilis and tabes and paresis has gradually given way until now their ætiology is regarded as identical, although a difference is admitted which is dependent upon localization and the nature of the tissue involved. Cerebro-spinal syphilis comprehends the exudative, vascular and gummatus changes which involve the membranes and the blood vessels within them. In the great majority of cases these processes remain superficial. Where they follow the pial or adventitial sheaths into the essential nervous structure itself they give rise to the borderline cases of tabes and paresis. In true paresis there is a combination of meningitis and encephalitis. The parenchyma of the brain shows a typical infiltration of plasma cells and lymphocytes in the adventitial lymph spaces. The secondary degenerative changes and atrophy are probably dependent upon the vascular changes. In tabes a meningitis is also present which is believed by Nonne and others to lead to disease of the roots and secondarily of the posterior columns. The view of a primary degeneration without antecedent inflammatory changes has been practically abandoned.

Fever.—The occurrence of fever in syphilis is frequently overlooked or improperly diagnosed. It is a very variable manifestation. It is estimated that from 25 to 35 per cent. of the cases in the secondary stage have an elevation of temperature. It may pre-

PLATE L.—To Illustrate Article on the Pathology of Syphilis,
by JOHN A. FORDYCE, M.D.

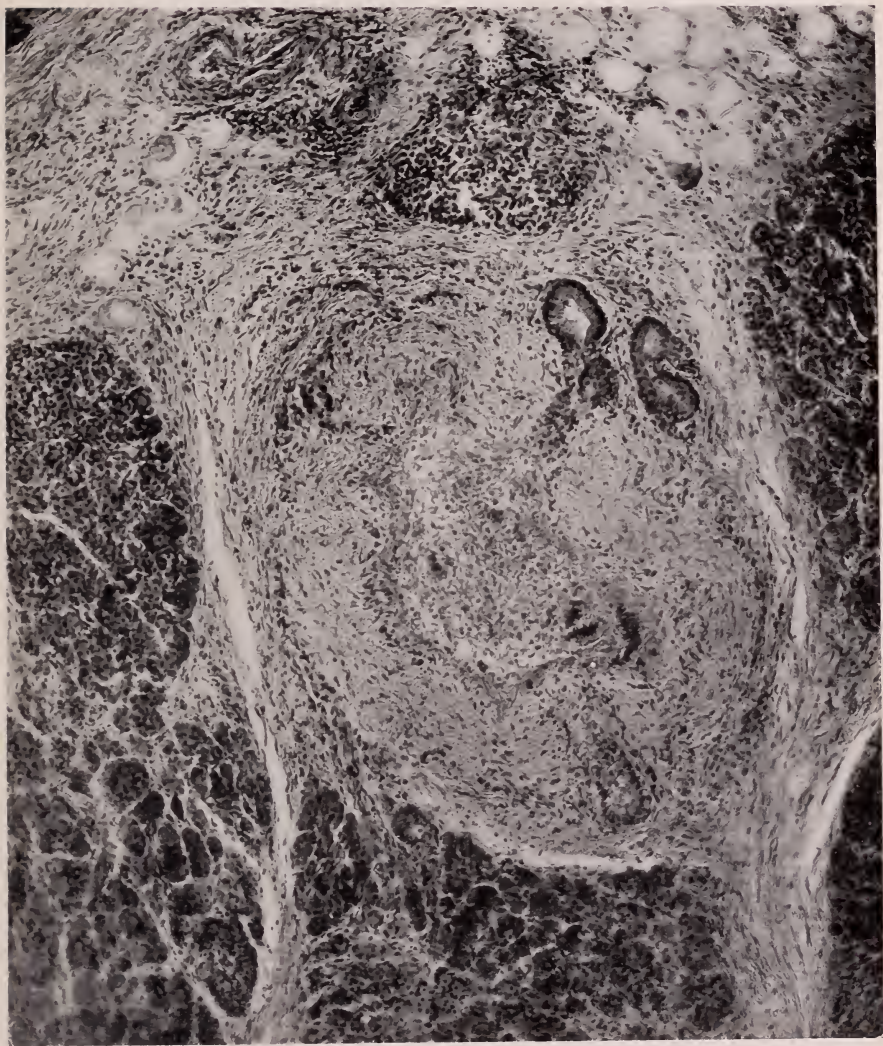


Fig. 1.
Interstitial pancreatitis with replacement fibrosis.

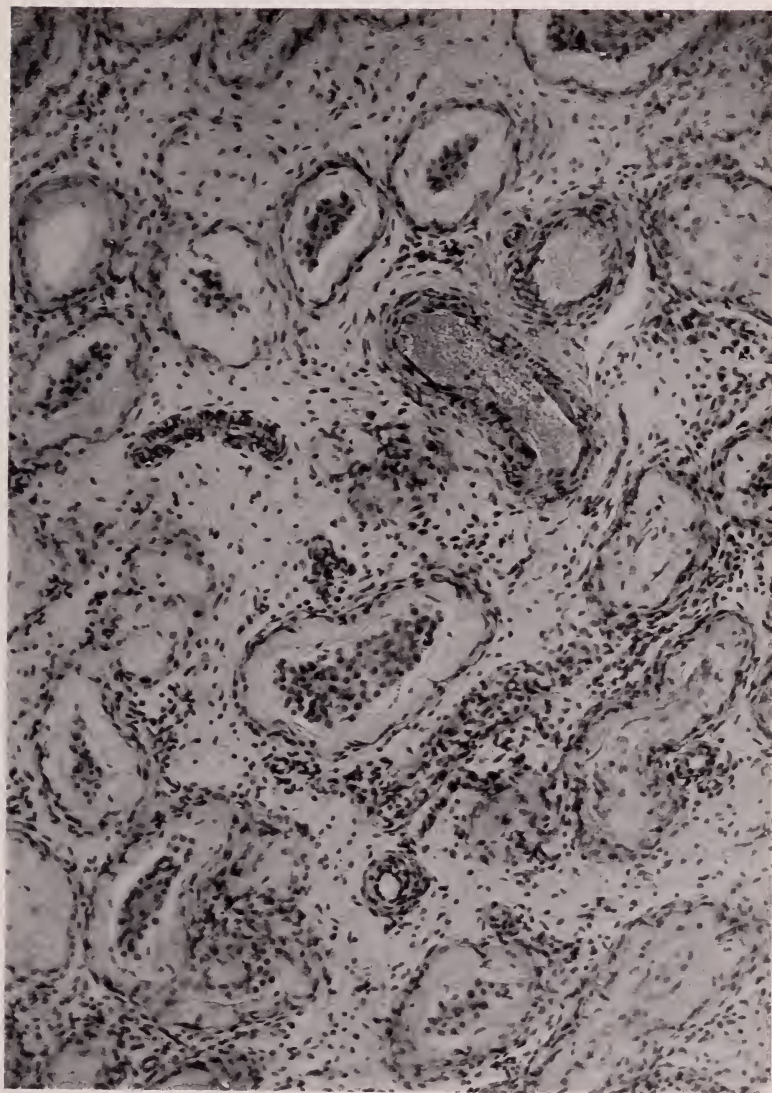


Fig. 2.
Diffuse syphilitic orchitis with increased connective tissue and hyaline degeneration of the tubules.

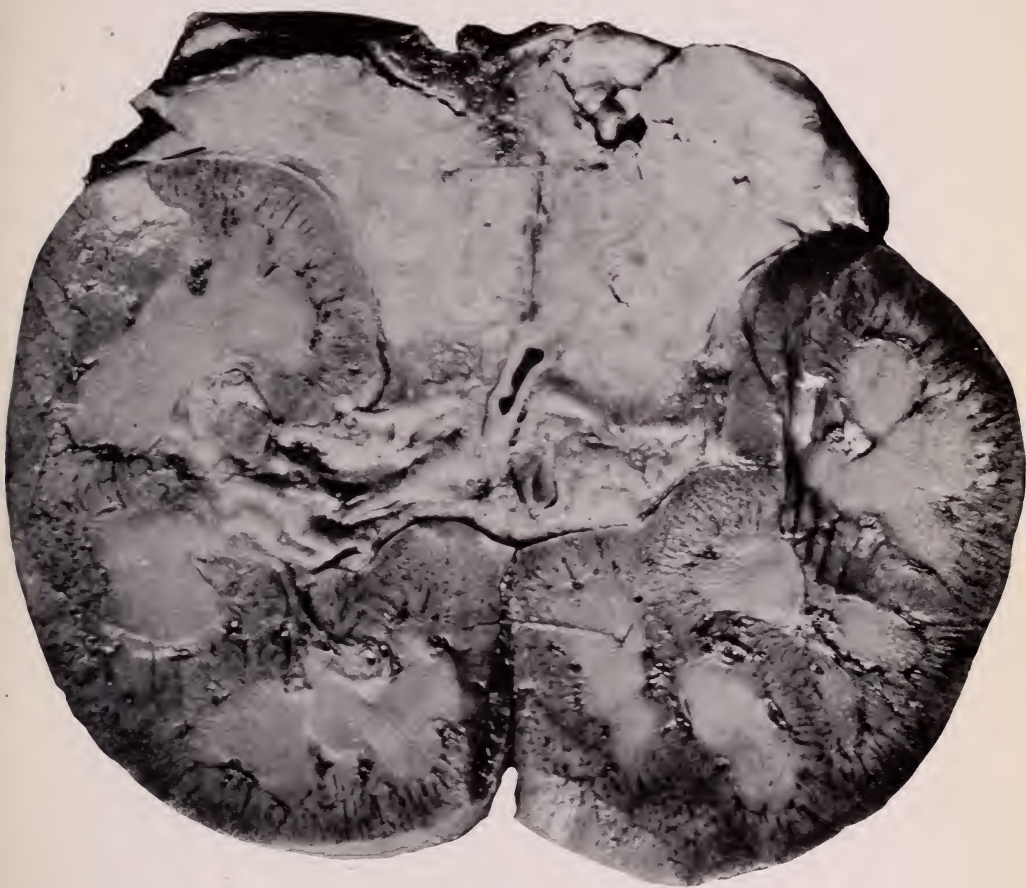


Fig. 3.
Gumma of suprarenal capsule.

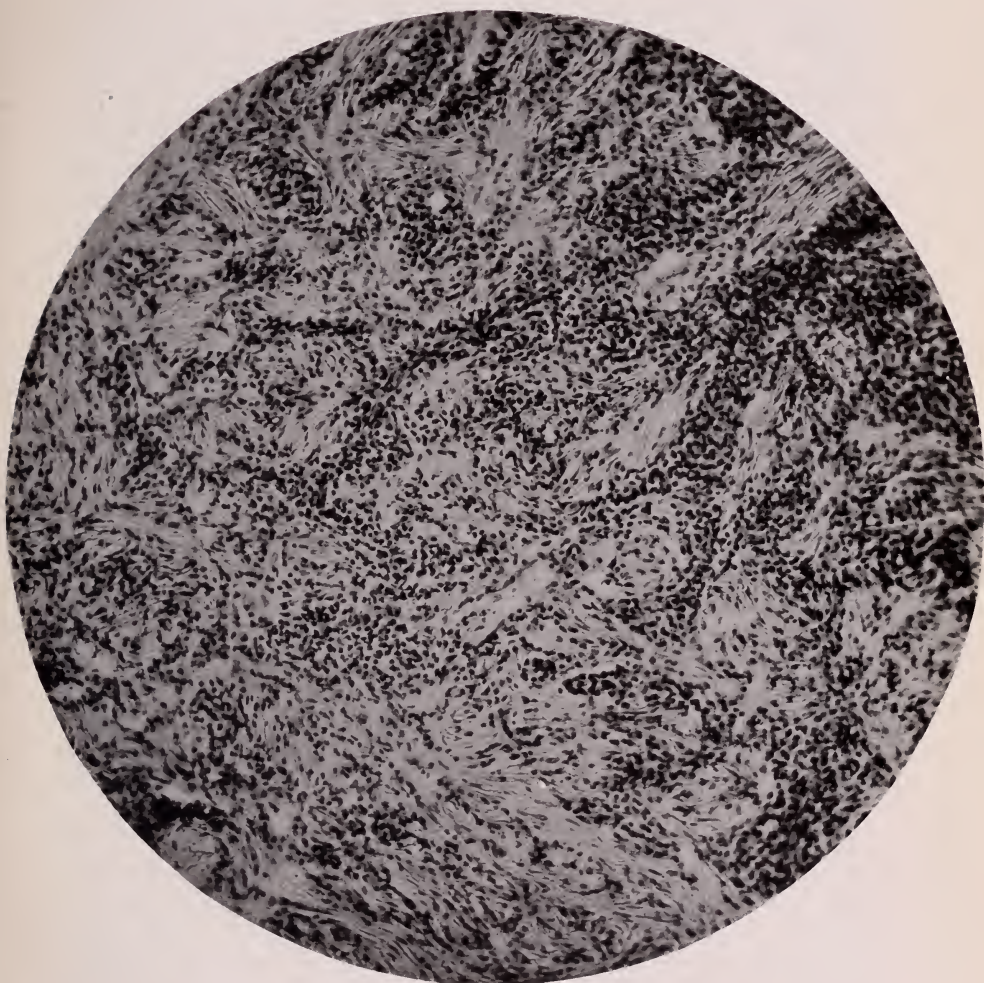


Fig. 4.

Syphilitic laryngitis. A productive inflammation showing fibrosis and an inflammatory infiltration of plasma cells and lymphocytes.

PLATE LIV.—To Illustrate Article on the Pathology of Syphilis,
by JOHN A. FORDYCE, M.D.

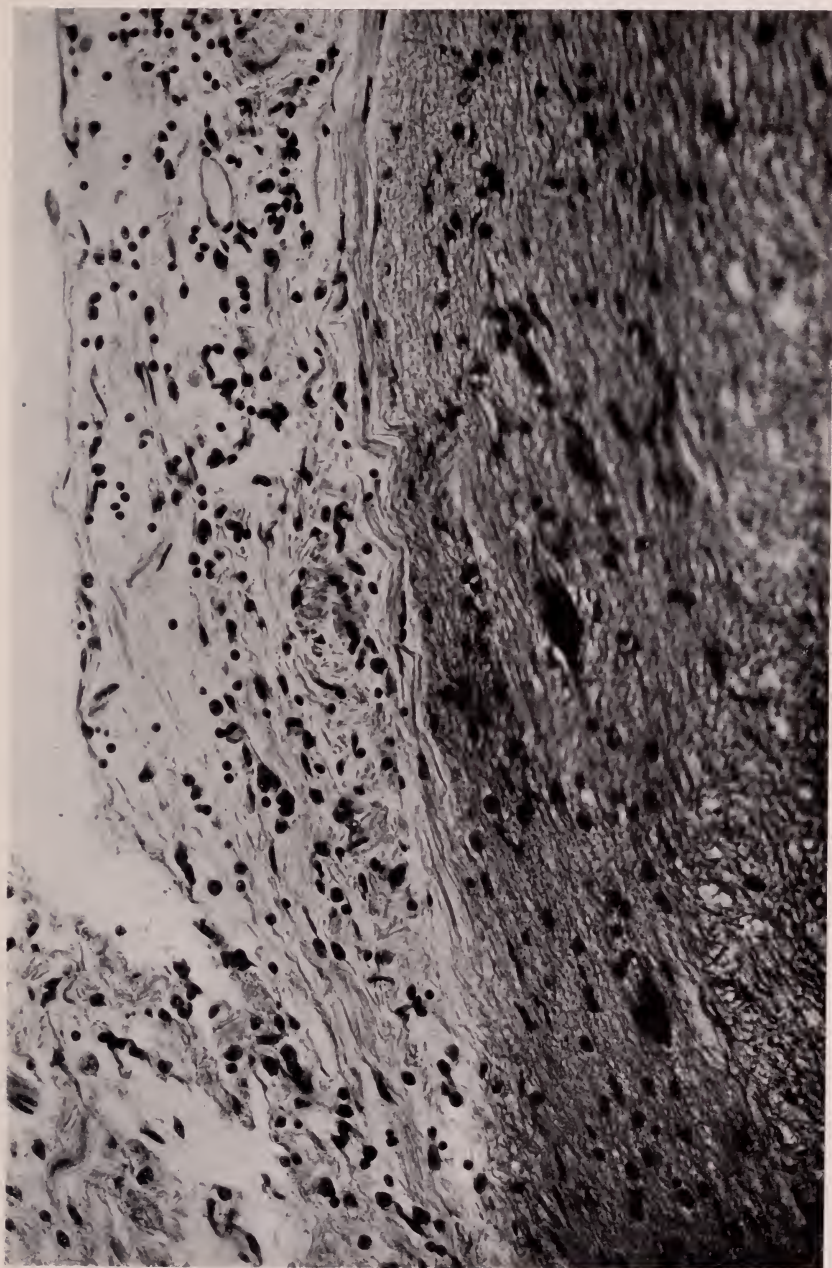


Fig. 5.
Syphilitic meningitis. Showing the thickened meninges with plasma cell and lymphocytic infiltration.

cede the eruption by several days and is commonly of the remittent type. With pains in the limbs and joints it may simulate rheumatic fever, while another variety simulates typhoid and has been called by Fournier *typhose syphilitique*. Malaria and tuberculosis may also have to be differentiated. It is not generally appreciated that tertiary lesions may give rise to fever of every type and it is impossible to say how many of the obscure febrile cases are due to syphilis. It has been noted that hepatic disease is frequently accompanied by a rise of temperature. During the course of paresis attacks of fever lasting several days are very common. Kraus has called attention to febrile attacks in the course of latent syphilis which he refers to an invasion of the blood by spirochætæ.

The Relation of Syphilis to Carcinoma.—Our information concerning the development of carcinoma of the internal organs on a syphilitic base is meagre, owing to the difficulty of making a differential diagnosis between syphilitic ulcerations and those from other causes, as in the stomach, for instance.

The oral cavity and the skin, however, furnish material for the study of this condition. Leucoplakia of the mouth is in the majority of cases of luetic origin, although there appears to be a small group of individuals who suffer from this affection in whom syphilis cannot be invoked. In these cases we must seek the explanation in irritation of another nature. The query often comes up as to whether syphilis of itself causes leucoplakia, as the preponderance of cases occur in individuals who are addicted to tobacco. While tobacco, alcohol, condiments and other irritating substances are probably factors in certain cases, leucoplakia is essentially a syphilitic lesion. Syphilis *per se* will not produce carcinoma, and it is questionable whether the scars and ulcers of syphilitic origin show a greater predisposition to malignancy than those of other ætiology. The relationship is probably found in the greater frequency with which syphilis attacks the mucous membrane of the mouth as compared with other diseases, thus offering more often a soil for malignant development on patches of leucoplakia or the ulcers, fissures or scars left by the breaking down of deep-seated gummata. In the skin the occurrence of an epithelioma on a syphilitic lesion is very rare. A short time ago such a case was under observation at my clinic. The patient was a man with a specific osteomyelitis of the tibia, followed by a discharging sinus and later by carcinoma.

Syphilis in the Third Generation.—There is no general agreement among syphilographers on the question of transmission of

syphilis to the third generation. On the one hand it is negatived by such an authority as Hutchinson and on the other it is admitted by Fournier, Barthelémy, Tarnowski and others, while Finger, Jullien, etc., occupy an intermediate position.

A. Fournier collected the statistics of 46 marriages of heredo-syphilitics. There were 143 pregnancies with the following results: 43 abortions, 39 still-birth, 63 living children which showed various dystrophies. From his observations he concluded that congenital syphilis in the third generation exists, but is rarely noted clinically because of difficulties of recognition. The mortality in this generation exacts a toll of two-fifths of its members. The disease is evidenced in about four-fifths of the cases by dystrophic stigmata which in no way differ from those of congenital syphilis and in about 14 per cent. it exhibits symptoms of syphilis.

Recently Nonne published three cases that came under his observation. One of these I had the pleasure of seeing in his clinic at Eppendorf last summer. The patient was then about ten months old, had no manifest symptoms of syphilis but a positive Wassermann and luetin reaction. The mother of the child was fifteen years old and a congenital paretic. The grandfather was admittedly syphilitic, his infection was eight years old when he married and he had a cutaneous relapse before the birth of his daughter. A second child a year younger suffered from keratitis.

It is possible that the systematic examination, according to our modern methods, of the children of congenital syphilitics will reveal the presence of the disease more frequently than in the pre-Wassermann era. From our more definite knowledge of the biology of the virus and the nature of the infection, the disease is probably transmissible only on the side of the female and through the placenta. Much investigation along these lines, however, will have to be followed to elucidate these points.

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A STUDY OF THE COMPARATIVE TOXICITY OF THE
VARIOUS PREPARATIONS OF MERCURY.*WITH A HISTOLOGICAL STUDY OF EXPERIMENTAL MERCURIAL
NEPHRITIS.

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FOR more than four centuries mercury has been employed in the treatment of syphilis. It has had, perhaps more than any other medicament, varying vicissitudes of fortune, being highly lauded as a sovereign remedy in one period and condemned as a vicious poison in the next. At times the toxic effects of the drug and the malign effects of the disease against which it was used were sadly confused in the medical as well as in the lay mind. It fell from time to time into disrepute and desuetude, only later to be reinstated as a valuable medicament. During the greater part of the nineteenth century the main reliance in the treatment of syphilis was placed in mercury. When Ehrlich announced the elaboration of salvarsan as a superior remedy for spirochætic infections it appeared for a while as if mercury in this disease would finally be consigned to the oblivion of obsolete drugs. Arseno-benzol is a remarkable chemical combination. The clinical results that have been achieved by its use are well known to all; those, however, who have employed it in laboratory animals against trypanosome and spirochætic infections are forced to marvel at the results obtained when compared with other known remedies. Its high affinity for these

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parasites and its low affinity for the body cells make it therapeutically efficacious and at the same time of relatively low toxicity.

Syphilographers generally are of the opinion, however, that the best results in the treatment of this disease are accomplished by the use of both salvarsan and mercury. While it is presumed that mercury like salvarsan acts as a spirochæticide, yet we have no direct evidence of such action in experimental animals. The parasiticide effect of salvarsan on trypanosomes and spirochætes in the blood can be readily demonstrated; on the other hand the destructive influence upon these organisms in the test tube is much feebler than that of mercury. Mercury is the best germicide known in the test tube, but when injected into the blood of experimental animals infected with trypanosomiasis or with the spirochæte of relapsing fever, it has no demonstrable effect upon the parasite and does not materially delay death from these diseases. We know definitely, however, that mercury has a curative influence upon the lesions of syphilis, just as has iodine which possesses no spirochæticide effect. The manner of action of salvarsan and mercury, therefore, may be somewhat different and the latter is still to be regarded as an approved remedy in the treatment of syphilis.

Mercury may be introduced into the system by a variety of routes—by alimentary administration, by inhalation of mercury vapor, by inunction through the skin and by injection beneath the skin, into the muscles, or directly into the blood stream. Prof. Welander of Stockholm claims that a considerable part of the effect presumed to result from inunctions is due to volatilization of the mercury on the skin and absorption through the lungs. He therefore devised certain mercury bags to be worn about the neck. Mercury is eliminated chiefly through the intestines and the kidneys, the greater part being excreted through the former. The most efficacious results from the use of mercury in syphilis are obtained from the employment of massive doses; as would naturally be expected such doses are likewise the most dangerous for the individual by reason of damage to the excretory organs, particularly the kidneys. Within recent years syphilographers have more particularly relied upon inunctions and injections of mercury as the best methods of administering the drug. The special mercurial preparations employed by injection have been selected largely on the basis of convenience and relative freedom from pain produced, rather than because of any known superiority of one salt over another.

The most frequently employed soluble mercurial salts are the

bichloride, benzoate, succinimide, oxycyanate, cyanide, soziodolate and cacodylate. The chief insoluble mercurial preparations in use are the salicylate, calomel and gray oil.

We have devoted much time to the elaboration of new organic mercurial compounds and the testing out of the same on animals for their toxic and therapeutic effects. In the determination of the toxicity of the various new compounds prepared by us, it was found desirable to compare it with that of the mercurial salts in use. This led to the inquiry which is detailed in this communication.

IMMEDIATE LETHAL DOSE.

A rapid method of testing the toxicity of the various salts is the determination of the immediate lethal dose. For this purpose intravenous injections of a solution of the drug were given to rabbits, repeated injections being administered at intervals of one or two minutes until death ensued. In all cases death resulted within ten minutes. Below is appended a table giving the amount of the mercurial salt per kilo of body weight, the percentage of mercury in each salt and the actual amount of pure mercury per kilo administered.

TABLE I.

DOSIS LETHALIS. TOXICITY OF MERCURIAL SALTS.

Immediate Lethal Dose.	Contained Mercury.	Amount of pure Mercury.
1. Hg. salicylate .....0.027 gm.	58%	.0155 gm.
2. Hg. soziodolate .....0.024 "	32%	.0077 "
3. Hg. cacodylate .....0.37 "	20%	.0075 "
4. Hg. benzoate .....0.015 "	45%	.0067 "
5. Hg. bichloride .....0.007 "	74%	.0052 "
6. Hg. oxycyanide .....0.0055 "	83%	.0045 "
7. Hg. succinimide .....0.007 "	50%	.0035 "

In this series of experiments the succinimide of mercury was found to be the most toxic salt as far as immediate lethal effect is concerned. Three and a half milligrams per kilo of body weight proved fatal. Following this in order of toxicity came the oxycyanide, the bichloride, benzoate, cacodylate, soziodolate and finally the salicylate, the last being rendered soluble in piperazin water. The cacodylate can be given in larger amount than any of the above salts. While theoretically this drug should contain 42 per cent. of mercury, we found it (Merck's product) by actual analysis on several occasions to contain about 20 per cent. Its immediate fatal dose in terms of mercury is therefore less than the salicylate of mercury and consequently its toxicity is greater.

While the *dosis lethalis* is in a general way an index of the toxicity of the various mercurial salts, it is no satisfactory guide as to the relative poisonous properties of these salts administered as they ordinarily are to human subjects. Overwhelming doses administered intravenously kill the animal in an entirely different manner than when given in smaller quantities over protracted periods.

DOSIS TOLERATA.

In order to determine for practical purposes the comparative toxicity of the various soluble preparations of mercury administered intravenously, we endeavored to ascertain the *dosis tolerata* of the different salts. In these experiments groups of eight to ten white rats were injected with graded doses of each salt, varying, as a rule, from one quarter of a milligram to 8 milligrams per kilo of body weight. The dose was dissolved in one cc. of water and the injections were given into the exposed jugular vein. The animals were numbered and tagged and each group set aside in special cages to determine the maximum dose that could be given without inducing a fatal result; this dose is the *dosis tolerata*.

Great difficulties were encountered in arriving at the tolerated dose of the different salts owing to inconsistencies in the results. It not infrequently occurred that a rat receiving .0004 gm. of the drug would survive while those receiving .0002 and .0003 gms. would succumb. Every effort was made to render the technique of the experiments as perfect as possible. The drugs were carefully weighed on delicate balances in the chemical laboratory and were dissolved in such quantity of water as would make for the greatest accuracy of dosage. The intravenous injections were given after the jugular vein had been exposed; in this manner the dose to the fraction of a drop was introduced into the circulation.

In order to reduce the chances of error to a minimum, each experiment was repeated several times. For instance, each mercurial salt in graded doses was tested out intravenously on a series of rats on three different occasions. During our studies of the toxicity of the mercurials we employed 259 rats and 20 rabbits. Despite the precautions taken, and the repetition of the experiments, inexplicable variations in the findings occurred. We have become convinced that biological experiments of this character cannot be carried out with the expectation of mathematically precise results.

The only reason that we can assign for the variant results is that inherent differences exist in the resistance of the individual rats to poisonous drugs.

TABLE II.
DOSIS TOLERATA. INTRAVENOUS INJECTIONS.

Hg. Bichloride. Hg. 74%				Hg. Benzoate. Hg. 45%				Hg. Succinimide. Hg. 51%			
Rat No.	Weight	* Dose	Death After Days	Rat No.	Weight	* Dose	Death After Days	Rat No.	Weight	* Dose	Death After Days
1	126	.0008	1	1	90	.0008	3	1	65	.0008	3
2	88	.0007	5 minutes	2	107	.0007	4	2	98	.0007	4
3	117	.0006	30	3	68	.0006	5	3	70	.0006	5
4	77	.0005	5	4	99	.0005	14	4	81	.0005	0
1a	61	.0005	2	5a	85	.0005	4	9a	87	.0005	14
5	134	.0004	34	5	116	.0004	5	5	103	.0004	5
2a	74	.0004	3	6a	82	.0004	4	10a	59	.0004	4
6	68	.0003	6	6	61	.0003	0	6	70	.0003	14
3a	76	.0003	0	7a	79	.0003	5	11a	59	.0003	0
7	87	.0002	0	7	89	.0002	0	7	108	.0002	13
4a	97	.0002	0	8a	63	.0002	0	12a	58	.0002	0
8	87	.0001	0	8	92	.0001	0	8	78	.0001	14
9	93	.00005	0	9	110	.00005	0	9	115	.00005	4
10	71	.000025	31	10	97	.000025	0	10	77	.000025	27

a Second experiment.

* Dose per 100 grms. body weight.

0 Animals thus designated did not die during the period of observation of about 2 months.

TABLE III.
DOSIS TOLERATA. INTRAVENOUS INJECTIONS.

Hg. Cacodylate. Hg. 20%				Hg. Sozoiodolate. Hg. 32%				Hg. Salicylate. Hg.† 45%			
Rat No.	Weight	* Dose	Death After Days	Rat No.	Weight	* Dose	Death After Days	Rat No.	Weight	* Dose	Death After Days
1	57	0.0008	8	1	58	0.0008	5	1	56	0.0008	3
2	105	0.0007	3	2	82	0.0007	3	2	60	0.0007	2
13	85	0.0006	30	3	65	0.0006	27	3	94	0.0006	2
1a	70	0.0006	19	24	81	0.0005	0	4	57	0.0005	3
14	87	0.0005	0	6a	138	0.0005	19	13a	..	0.0005	3
2a	72	0.0005	0	5	60	0.0004	2	5	76	0.0004	3
15	95	0.0004	27	7a	124	0.0004	16	14a	..	0.0004	0
3a	104	0.0004	22	6	115	0.0003	4	6	69	0.0003	4
16	88	0.0003	0	8a	84	0.0003	31	15a	..	0.0003	0
4a	96	0.0003	0	27	119	0.0002	0	17	67	0.0002	0
7	75	0.0002	0	9a	111	0.0002	23	16a	..	0.0002	0
5a	128	0.0002	12	8	98	0.0001	0	18	55	0.0001	0
8	102	0.0001	19	66	94	0.0005	7				
9	59	0.00008	11	76	86	0.0004	0				
1c	69	0.0006	7	86	66	0.0003	23				
2c	87	0.0005	0	96	92	0.0002	16				
3c	105	0.0004	20								
4c	71	0.0003	14								
5c	71	0.0002	0								

* Dose per 100 grms. body weight.

a Second experiment.

c Third experiment.

† In the first experiment Hg. salicylate was dissolved in piperazin water; in the second the same drug was dissolved in weak alkali.

0 Animals thus designated did not die during the period of observation of about 2 months.

TABLE IV.
DOSIS TOLERATA. INTRAVENOUS INJECTIONS.

Hg. Oxycyanide. Hg. 83%				Hg. Oxycyanate. Hg. ———.			
Rat No.	Weight	* Dose	Death After Days	Rat No.	Weight	Dose	Death After Days
1	57	0.0008	2	1	82	0.0008	at once
2	59	0.0007	13	2	54	0.0007	at once
3	50	0.0006	at once	3	84	0.0006	few minutes
4	72	0.0005	at once	4	90	0.0005	few minutes
5	67	0.0004	0	5	70	0.0004	few minutes
10a	62	0.0004	1	6	57	0.0003	1
6	65	0.0003	3	7	75	0.0002	1
11a	64	0.0003	1	8	79	0.0001	0
7	104	0.0002	5	9	81	0.00005	0
12a	67	0.0002	1				
8	89	0.0001	0				
13a	62	0.0001	0				
9	71	0.00005	0				
10	79	0.000025	0				

a Second experiment.

* Dose per 100 grms. of body weight.

0 Animals thus designated did not die during the period of observation of about 2 months.

The death of animals occurring between the 3rd and 4th week cannot be properly ascribed to the injection of the drug, as control rats not infrequently die after such a period without discoverable cause.

In expressing the dosis tolerata of the various salts administered intravenously, we have taken the average tolerated dose of three series of experiments. In the subjoined table is given the amount of the salt per kilo of body weight and the amount in terms of pure mercury per kilo, that could be borne without fatal result.

TABLE V.
DOSIS TOLERATA. INTRAVENOUS INJECTIONS.

	Amount of drug per kilo.	Pure Hg. per kilo.
Hg. salicylate	3.0 mg.	1.7 mg.
Hg. bichloride	2.0 "	1.5 "
Hg. benzoate	2.4 "	1.1 "
Hg. succinimide	1.8 "	.9 "
Hg. cacodylate	4.5 "	.9 "
Hg. oxycyanide	1.0 "	.83 "
Hg. sozoiodolate	2.2 "	0.75 "

In this series of experiments, the salicylate of mercury was dissolved in weak alkali, and the bichloride could be given in somewhat higher dosage (in terms of pure mercury) than the other salts, although the differences were not striking.

Two milligrams of bichloride per kilo of body weight is the highest dose that can be given intravenously without causing death. This would be equivalent to 2 grains for a person weighing 120 pounds.

DOSIS TOLERATA. INTRAMUSCULAR INJECTION.

The soluble salts of mercury being given chiefly by intramuscular injection, an effort was made to determine the dosis tolerata by this mode of administration. The figures given in the following table represent the average of three series of experiments.

TABLE VI.

	Amount of drug per kilo.	Pure Hg. per kilo.
Hg. succinimide	14.0 mg.	6.0 mg.
Hg. bichloride	6.5 "	4.8 "
Hg. sozoiodolate	12.0 "	4.0 "
Hg. benzoate	8.5 "	3.8 "
Hg. cacodylate	18.0 "	3.6 "
Hg. salicylate	4.0 "	2.5 "

The succinimide was best borne in this series of intramuscular injections, the bichloride of mercury coming next.

RELATION OF THE INTRAMUSCULAR TO THE INTRAVENOUS DOSE.

It is interesting to note the amount of mercurials tolerated by intramuscular administration as compared with direct injection into the blood stream. This is best established by determining the ratio of each salt and then averaging these to determine the difference in the amount of mercury tolerated by these two routes. Computation discloses the fact that *about four times more mercury can be borne by intramuscular administration than by intravenous infusion.*

TABLE VII.

DOSIS TOLERATA. INTRAMUSCULAR INJECTIONS. SOLUBLE COMPOUNDS.

Hg. Bichloride. Hg. 74%				Hg. Benzoate. Hg. 45%			
Rat No.	Weight	Dose	Death After Days	Rat No.	Weight	Dose	Death After Days
1	86	0.0012	4	6	92	0.0012	4
2	101	0.001	4	7	81	0.001	21
3	83	0.0008	0	8	102	0.0008	49
4	65	0.0006	34	9	71	0.0006	32
5	66	0.0004	34	10	70	0.0004	30

Hg. Succinimide. Hg. 51%				Hg. Salicylate.* Hg. 45%			
Rat No.	Weight	Dose	Death After Days	Rat No.	Weight	Dose	Death After Days
11	71	0.0012	35	16	85	0.0012	3
12	70	0.001	36	17	82	0.001	4
13	81	0.0008	0	18	108	0.0008	24
14	84	0.0006	0	19	81	0.0006	4
15	73	0.0004	19	20	72	0.0004	0
11a	183	0.0012	0				
12a	150	0.001	0				
13a	135	0.0008	0				
14a	99	0.0006	0				
15a	190	0.0004	0				

* Dissolved in weak alkali.

a Second experiment.

0 Animals designated thus did not die during the period of observation of about 2 months.

TABLE VIII.

DOSIS TOLERATA. INTRAMUSCULAR INJECTIONS. INSOLUBLE COMPOUNDS.

Calomel. Hg. 85%				Gray Oil. Hg. 100%				Hg. Salicylate. Hg. 45%			
Rat No.	Weight	Dose	Death After Days	Rat No.	Weight	Dose	Death After Days	Rat No.	Weight	Dose	Death After Days
1	56	0.016	14	10	75	0.010	14	1	72	0.014	5
9	74	0.016	18								
2	81	0.01	20	17	90	0.010	17	2	73	0.011	5
3	101	0.008	17	11	77	0.008	18	3	63	0.0095	4
4	56	0.006	21	15	70	0.008	0	4	78	0.005	0
10a	60	0.006	6	12	65	0.006	20	5	97	0.002	0
5	101	0.004	22	16a	66	0.006	0	6	97	0.001	0
11a	69	0.004	0	13	99	0.004	30	7	73	0.001	0
6	93	0.002	21	17a	70	0.004	23	8	110	0.0005	13
12a	68	0.002	0	24	90	0.002	0	9	166	0.0002	0
7	65	0.001	21	18a	69	0.002	0	10	68	0.0003	0
13a	61	0.001	0	15	88	0.001	0				
8	104	0.0005	10	19a	69	0.001	30				
14a	61	0.0005	30	16	79	0.0005	22				
				20a	60	0.0005	0				

a Second experiment.

0 Animals thus designated did not die during the period of observation of about 2 months.

REPEATED INTRAMUSCULAR INJECTIONS.

When soluble preparations of mercury are administered for their therapeutic effect to human subjects, they are given as a rule intramuscularly, either daily or tri-weekly. In order to reproduce the conditions of a human experiment, ten rabbits were given daily intramuscular injections. Five of the most commonly employed mercurial salts were selected—the bichloride, benzoate, salicylate, succinimide and cacodylate. Each drug was used upon two rabbits. The purpose of this experiment was to determine the comparative toxicity of these salts by observing the effect on the kidneys and by noting the duration of life of the rabbits. The rabbits were catheterized on alternate days and the urine carefully examined for albumin. The daily dose at first employed was about .001 milligram per kilo, but subsequently increased to two and again to four milligrams.

TABLE IX.
DAILY INTRAMUSCULAR INJECTIONS OF MERCURIAL SALTS.

Rabbit No.	Name of the Chemical	Total Amount Received per Kilo in Grms.	Total Amount in Terms of Hg. per Kilo in Grms.	Duration of Life
6	{ Hg. bichloride	0.071	0.052	45 days
7	{ Hg. bichloride	0.028	0.021	31 days
8	{ Hg. succinimide	0.033	0.017	33 days
9	{ Hg. succinimide	0.071	0.035	45 days
10	{ Hg. benzoate	0.042	0.018	34 days
11	{ Hg. benzoate	0.014	0.006	14 days
12	{ Hg. salicylate	0.015	0.008	17 days
13	{ Hg. salicylate	0.071	0.041	44 days
14	{ Hg. cacodylate	0.118	0.023	Alive after 2 months
15	{ Hg. cacodylate	0.091	0.018	48 days

In this experiment, which extended over a period of more than 48 days, the individual variation in the experimental animals is again evident: one bichloride rabbit, for instance, was able to stand daily injections totalling 71 mg. before succumbing, whereas its mate died after receiving 28 mg. In view of this variability of resistance we would hesitate to draw positive conclusions as to the relative toxicity of the different mercurial salts employed. However, the experiment is not without value, for certain deductions may be drawn therefrom. It is perfectly evident that the bichloride of mercury was no more toxic than the other salts in use; indeed, in terms of pure mercury contained, this drug was in this experiment borne better than any of the other preparations.

Recent investigators have maintained that inorganic mercurial salts, in which mercury exists as an ion, are organotropic and, therefore, more highly toxic. The explanation is that in inorganic mercury salts, the mercury ion being free, combines with the proteins

of the body. The other salts employed in this experiment, the succinimide, benzoate, salicylate and cacodylate, are what is known as half-complex organic compounds, in which the element mercury is no longer free as an ion, but is in combination with organic substances. Such mercury compounds do not attack proteins as vigorously and, therefore, are regarded as less toxic.

The results of the experiment under discussion do not bear out the views just referred to. This may be due to the fact that in the half-complex salts employed, the mercury was combined in such loose form that it was readily split off in the body and combined with cellular proteins. It is interesting, too, to observe the maximum amount of bichloride of mercury that could be tolerated in fractional doses over a long period of time. Rabbit 6 received 70 mg. of mercury per kilo in 45 days; this would be equivalent to 70 grains for a person weighing 120 pounds. The amount given was, to be sure, toxic and caused progressive loss of weight. At the outset the rabbit weighed 1934 grams, whereas at the time of its death, 44 days later, it weighed but 1228 grams. Albumin was present in the urine from time to time, but only in traces and during most of the period the urine was free of albumin.

TABLE X.

Rabbit No.	Urinary Findings. Day upon which Albuminuria was First Observed	Day of Death	Histological Changes in Kidneys
6	Sixth day	45	Slight tubular nephritis; no calcareous deposits.
7	Eleventh day	31	Slight exudative glomerulo-nephritis with proliferative changes; slight tubular nephritis. No calcareous deposits.
8	Ninth day	33	Acute intertubular and glomerular condition with slight tubular nephritis; no calcareous deposits.
9	Thirty-second day	45	Slight tubular nephritis; no calcareous deposits.
10	Sixth day	34	Slight tubular nephritis; no calcareous deposits.
11	Sixth day	14	Acute intertubular and glomerular congestion with glomerular exudate and early proliferative changes; slight tubular nephritis; no calcareous deposits.
12	Eighth day	17	Slight tubular and glomerular (exudative) nephritis; no calcareous deposits.
13	Sixteenth day	44	Slight tubular nephritis; early intracapillary glomerulo-nephritis; no calcareous deposits.
14	Thirty-second day	Living after 2 months	
15	Tenth day	48	Slight tubular and glomerular (exudative) nephritis; no calcareous deposits.

INSOLUBLE MERCURIAL PREPARATIONS.

The insoluble preparations of mercury are at the present time employed to a greater extent than the soluble.

We endeavored to institute a comparison of the toxicity of calomel, gray oil and the salicylate of mercury. Five white rats received, respectively, doses varying from a half to six mg. of *calomel* into the gluteal muscles. The animal receiving six milligrams (the equivalent of 60 grains for a person weighing 120 pounds) died on the sixth day. The animal receiving one-half milligram died on the 30th day. The other rats survived. Six other rats received, respectively, doses of *gray oil*, varying from a half to eight milligrams. The animal receiving four milligrams (the equivalent of 40 grains for a person weighing 120 pounds) died on the 23rd day. The other rats survived. In a second experiment nine rats received doses varying from 16 milligrams to half a milligram of *calomel*. All the animals succumbed between the 14th and 22nd days. Eight rats received doses varying from ten milligrams to one-half milligram of *gray oil*. All of the animals succumbed between the 14th and 30th days except two that received two and one milligram respectively. Ten rats received, respectively, doses varying from one quarter to 14 milligrams of *salicylate of mercury* in oil suspension. Those receiving the three highest doses died within 120 hours, the other rats survived. Five milligrams was therefore the tolerated dose.

Three rabbits of approximately the same weight were, on October 20th, given intramuscularly 16 milligrams of calomel, 16 milligrams of gray oil and 10 milligrams of salicylate of mercury, respectively. The first two doses are the equivalent of about 8 grains of the drug for a person weighing 120 pounds. The urine was frequently examined for albumin, none being present at the end of 16 days; a second dose of 8 milligrams of each of these drugs was given on November 2nd. The day following, albumin and casts appeared in the urine of each rabbit but subsequently disappeared.

On November 19th the calomel and gray oil rabbits received a third injection of 16 milligrams, and the salicylate rabbit 10 milligrams. On December 1st, a fourth injection of 180 milligrams, an enormous dose, was given to each rabbit. The calomel rabbit died on the following day, having lived 44 days. The salicylate rabbit died on December 7th, having lived 48 days, and the gray oil rabbit died on December 17th, having lived 56 days. The calomel and salicylate rabbits died after a severe diarrhœa. The gray oil

rabbit had no diarrhœa but albumin was present in the urine for a number of days before death. The salicylate rabbit lost most in weight, the calomel rabbit moderately, the gray oil rabbit gained in weight.

EXPERIMENT ON THE COMPARATIVE RAPIDITY OF ABSORPTION OF
GRAY OIL, CALOMEL AND SALICYLATE OF MERCURY.

Three rabbits were injected, respectively, with a single dose of 180 mg. of metallic mercury in the form of gray oil, 180 mg. of calomel and 180 mg. of salicylate of mercury.

These preparations were carefully incorporated in creamy suspensions, 1 cc. of which was injected into the muscles of the thigh. This dose is the equivalent of about 90 grains of the drug for a person weighing 120 pounds. The *gray oil* rabbit died at the end of 49 days. The muscle into which the injection was made was excised and analyzed for the amount of unabsorbed mercury; 86 mg. were recovered, representing 48 per cent. of the amount injected.

The *salicylate* rabbit died at the end of 45 days. Forty-eight milligrams of mercury were recovered from the muscle. Inasmuch as mercury salicylate contains but 58 per cent. of mercury, the amount of pure mercury injected was 104 mg.; *the quantity remaining as unabsorbed therefore was 46 per cent. of the amount of mercury injected.*

The *calomel* rabbit died at the end of 21 days. Calomel contains 85 per cent. of mercury; therefore 180 mg. would represent 153 mg. of the pure metal. Of this amount, 108 mg. were recovered. *Therefore 71 per cent. of mercury was unabsorbed at the end of 21 days.* The rate of absorption of gray oil was 1.05 per cent. per day. The rate of absorption of salicylate of mercury was 1.2 per cent. per day. The rate of absorption of calomel was 1.4 per cent. per day. These figures indicate a remarkable uniformity in the rapidity of absorption of these preparations. The slightly higher figure for calomel may possibly be explained by the shorter life of the rabbit, for one would naturally expect a relatively greater absorption during the early days of the experiment. This experiment demonstrates a direct relationship between the amount of mercury absorbed, the amount of mercury injected and the number of days it has lain in the tissues. It also indicates that metallic mercury incorporated in gray oil is absorbed as readily as calomel or the salicylate of mercury. This is surprising inasmuch as calomel and salicylate of mercury represent combinations in which mercury has already undergone oxidation, whereas gray oil contains the unoxidized metal.

In a second experiment, 2 rabbits were injected with 180 and 153 mg. of calomel, respectively, and the third with 180 mg. of gray oil. These animals were killed at the end of 21 days and the mercury unabsorbed in the muscles recovered and the amount determined. The results were much the same as in the first experiment, three-quarters of the mercury being found still present in the muscular tissue. The figures are set forth in the following table.

TABLE XI
SINGLE INTRAMUSCULAR INJECTION IN RABBITS.

Drug	Amount of Drug Injected in Terms of Mercury	Day of Death	Per Cent. of Hg. not Absorbed	Rate of Absorption per Day
	mg.	Days		mg.
Calomel	180	21 (died)	90.0	0.90
Calomel	180	21 (killed)	78.4	1.85
Calomel	153	21 (killed)	71.0	1.40
Gray Oil	180	21 (killed)	75.0	2.14
Gray Oil	180	49 (died)	48.0	1.06
Hg. Salicylate	104	45 (died)	46.0	1.20

GENERAL DISCUSSION OF RESULTS.

While we have indicated in various tables our findings concerning the relative toxicity of the soluble mercurial salts, we hesitate to draw therefrom any too definite conclusions. As has been stated, rats exhibit considerable variation in their resisting power to mercurial intoxication. We have endeavored to limit the experimental error as much as possible by using a large number of animals and averaging the results. One of the most important findings of our experiments is that the *toxicity* of the various mercurial salts, is, in a general way, proportionate to the amount of pure mercury contained in the salt. In order to be sure of the amount of mercury in the salts used in our experiments, special analyses of each salt were made by us. The mercurial preparations vary greatly as to their mercurial content. The bichloride, for instance, contains 74 per cent., whereas the sozoiodolate contains but 32 per cent. The cacodylate of mercury could be given in the largest quantity and at first sight appeared to be the least toxic. We have heard that certain clinicians are able to administer this drug in larger dosage than other mercurial salts. According to its theoretical formula the cacodylate should contain 42 per cent. of mercury. Repeated analyses made by us of Merck's product show, however, that it contained but 20 per cent. In terms of pure mercury, therefore,

its toxicity does not differ materially from that of other mercurial salts.

Our experiments demonstrate that the organic mercurial compounds are not perceptibly less toxic than inorganic salts. This is doubtless due to the fact that the organic compounds in use are in very weak combination. This indeed can be shown by the facility with which their mercury is split off from the organic rest by ammonium sulphide. In order to produce less toxic mercurial compounds it is necessary that the mercury be attached to two carbons $C-Hg-C$, so that the element is fixed and no longer able to enter into combination with the proteins of the body. None of the half-complex organic compounds investigated by us appear to be materially superior to the bichloride of mercury. By intravenous injection the tolerated dose of this salt is 2 milligrams per kilo of body weight, the equivalent of 2 grains for a person weighing 120 pounds. By intramuscular administration the tolerated dose was in the neighborhood of 6 milligrams per kilo, the equivalent of 6 grains for a person weighing 120 pounds. This figure, which represents an enormous dose, must not be accepted as an amount that could be safely injected, for some rats succumbed to this dose. Larger doses were, however, at times tolerated and 6 mg. per kilo was borne by most of the animals.

In administering the insoluble mercurial compounds, animals must be kept under observation for very long periods of time to judge of the effect of the drug given. We have injected into rats 4 to 6 milligrams of calomel or gray oil (the equivalent of 40 to 60 grains for a person weighing 120 pounds) and the rats have been well at the end of a month; but ultimately they die of the effects of the injection. One hundred and eighty milligrams of mercury in the form of gray oil, and 180 mg. each of calomel and the salicylate of mercury (the equivalent of 90 grains for a 120 pound person), were injected into three rabbits; the latter survived as long as 7 weeks. The daily rate of absorption we have calculated to be between one and one and a half per cent. This slow absorption explains why the insoluble mercurials may be given in relatively large doses. *The mercury contained in them is just as poisonous as in the soluble salts, but it is yielded up to the circulating fluids at a very slow rate.* A word of caution must here be sounded for the insoluble mercurials; administered as they usually are, once a week, they are sure to accumulate in the body. We have shown that about 50 per cent. of the mercury remains unabsorbed in the body, even as late as 6 or 7 weeks after injection. The effect of weekly injections

therefore is progressively cumulative. Mercury is powerfully renotropic and the kidney is the first organ to show damage from the toxic effects of the drug. We have often seen albuminuria and casts develop in patients receiving insoluble injections at weekly intervals. There are on record in the literature a large number of deaths from the use of insoluble mercurials. These preparations have certain advantages over the soluble salts but are far more dangerous and should be reserved for use by the experienced and careful clinician.

MERCURY NEPHRITIS. A HISTOLOGICAL STUDY.

A large proportion of the experimental animals succumbing to mercurial intoxication were autopsied and histological examinations made of the various organs, particularly the kidneys. In this manner we were able to study the changes produced in the kidneys after the administration of various salts by intravenous and intramuscular injection and at intervals varying from twenty-four hours to as much as six weeks after injection.

The nephritis produced by mercury is primarily a tubular form of nephritis. In mild intoxications the histological changes may be confined almost entirely to the convoluted tubules. In practically all but these mild intoxications, however, some changes are to be found in the glomerules, characterized mainly by a serous or hæmorrhagic exudate into the capsular spaces. Only exceptionally were examples of true intracapillary glomerulo-nephritis encountered and well marked capsular changes were found only occasionally and in the subacute and chronic intoxications. The vascular changes were never extreme and usually consisted in congestion of the veins in the midzonal and cortical portions. In general, therefore, it may be stated that in mild degrees of mercurial poisoning the resulting nephritis is essentially a tubular nephritis; in all severer intoxications (and these include all that are fatal within a week or ten days after administration of the salt) the nephritis is a combination of severe tubular and hæmorrhagic glomerular nephritis.

These histological changes may now be described briefly but in more detail.

THE TUBULAR LESIONS. As already stated, these are usually in evidence in sections of kidneys from all rats and rabbits succumbing to mercurial intoxication after a longer or shorter interval. *Even in those animals receiving small and non-fatal doses of mercury but autopsied after an interval of six or seven weeks, well defined changes were apparent in the tubules.*

These changes in the tubular epithelium are to be attributed to a direct toxic degeneration of the cells by mercury rather than an inflammatory process resulting from elimination of a toxic substance. For this reason there are usually slight or no evidences of leucocytic infiltration in or about damaged tubules; we have, however, in three animals found the reverse condition, namely, a well marked infiltration of the peri-tubular tissues and intratubular collections of leucocytes, mainly of the mononuclear variety, plasma cells and a few eosinophilic cells. This condition has been called acute interstitial non-suppurative nephritis and is ascribed by Mallory to the diffusion of mercury in the intertubular tissues with absorption along the lymphatics.

Tubular changes may be apparent within twelve to twenty-four hours after the administration of a fatal dose of a soluble salt. The early changes were found to consist of swelling and fragmentation of the lining cells of the tubules; the nuclei are clouded and show varying degrees of degenerative changes and the lumina of the tubules are filled with necrotic desquamated cells or casts of serum and networks of fibrin. (Fig. 1.)

Frequently, and especially in intoxications that are fatal within a few days, well marked œdema of the tubules in the cortical portions are apparent; in these instances the tubules are found widely distended with fluid and the lining cells flattened. (Fig. 2.)

The convoluted tubules are mostly involved. The mid-zonal portions of the kidney or that portion just on or about the mid-line between the cortical and medullary sections of the kidney, show the best marked and severer lesions. It is apparent, therefore, that mercury is chiefly eliminated by both the proximal and distal portions of the convoluted tubules, the loops of Henle and straight collecting tubules not being selectively engaged and usually escaping injury. This is particularly apparent in the straight collecting tubules. Occasionally certain tubules seem to be selected and are the sites of extensive involvement while neighboring tubules are relatively intact.

CASTS are usually present. In early lesions these are serous or composed of networks of fibrin. Desquamated epithelial cells are frequently found collected in masses in the lumina of tubules. Not infrequently the tubules are filled with blood. Casts may be present in any portion of a tubule, but are especially in evidence in the convoluted and straight collecting portions.

CALCIFICATION has been found as early as forty-eight hours after the intravenous injection of a soluble salt. This infiltration is first

apparent in those tubules involved and begins in the basement membrane of the tubules. Soon the attached cells become infiltrated and when desquamated, casts of cells infiltrated with the calcium salts are found in the tubules.

Calcification is most apparent in the mid-zonal region and first appears in this area; later, and in severer intoxications, all the tubules in the cortical and mid-zonal regions are involved with characteristic and extensive damage to the tubules. (Figs. 3 and 4.)

Ordinarily the glomerules escape this process of infiltration with calcium salts; in these experimental lesions, however, we have found three kidneys showing deposits of small amounts of calcium in the glomerules.

GLOMERULAR LESIONS. As previously stated, animals receiving small and non-fatal doses of mercury may show no appreciable glomerular lesions. As will be pointed out later, however, the great majority of our animals succumbing to mercurial intoxication showed some glomerular involvement along with the tubular changes.

The common glomerular lesion is an acute capsular glomerulonephritis of the exudative type. The exudate is usually hæmorrhagic and the nephritis therefore may be called an acute hæmorrhagic glomerulo-nephritis.

The capsular spaces are usually widely dilated and frequently appear empty, the serous exudate having drained away. Occasionally, however, a network of fibrin enmeshing desquamated lining cells and a few leucocytes is to be found in the capsular space.

The usual and more typical finding, however, is a collection of blood in the capsular space. (Figs. 5 and 6.) The number of leucocytes present is always small except in these occasional instances of acute interstitial non-suppurative nephritis when general leucocytic infiltration is a marked feature.

Proliferative changes were occasionally encountered. In these instances there was found well marked desquamation of the lining epithelial cells of the capsular space with evidences of epithelial regeneration and a distinct thickening of the capsule with connective tissue. These lesions were found among the subacute and chronic intoxications and were exceptional rather than frequent.

Likewise well marked examples of intracapillary glomerulonephritis were uncommon in our series. As already stated, the usual glomerular lesion was characterized by marked œdematous distention with a hæmorrhagic exudate. In severe intoxications, however, necrosis of the cells of the tuft was evident and also an enlargement of the glomerulus with an increased number of nuclei

due to leucocytic infiltration. The normal lobulation of the tuft was somewhat obscured, due to congestion of the capillaries.

As already stated, we have occasionally found early calcification of the tuft, but in no instance was this process well marked.

RELATIVE FREQUENCY OF THESE LESIONS. The lesions found in the kidneys of one hundred animals succumbing to mercurial intoxications are summarized as follows:

A. Of sixty-eight animals receiving a single intravenous injection of a *soluble salt of mercury*, in dose varying from .001 to .008 gm. per kilogram of body weight and succumbing in from one day to six weeks, the following lesions were found:

1. Tubular nephritis in all (100 per cent.).

Mild in 14, or 20 per cent.

Severe in 54, or 80 per cent.

Calcification in 36, or 52 per cent.

2. Exudative glomerulo-nephritis in 57, or 68 per cent.; calcification of the glomeruli was noted in three of these.

B. Of thirty-two animals receiving single or multiple doses of insoluble salts of mercury in amounts totalling from 0.01 to 0.180 gm. per kilogram of body weight and succumbing in from five days to seven weeks, the following lesions were found:

1. Tubular nephritis in all (100 per cent.).

Mild in 14, or 44 per cent.

Severe in 18, or 56 per cent.

Calcification in 9, or 30 per cent.

2. Exudative glomerulo-nephritis in 18, or 56 per cent.

3. Proliferative glomerulo-nephritis in 3, or about 10 per cent.

It is apparent that with the slower absorption of insoluble salts of mercury from the muscle, the tubular lesions are less severe, calcification is less in evidence and a tendency to chronic or proliferative changes more in evidence.

RELATIVE TOXICITY OF THE SALTS OF MERCURY ACCORDING TO KIDNEY CHANGES. Accepting severe tubular nephritis with calcification as a criterion of the relative renotoxicity of the various salts of mercury, the following summary may be made:

A. Soluble salts administered intravenously in dose varying from .001 to .008 gm. per kilogram of body weight:

Salicylate of mercury (in piperazin water).....	100%	severe tubular nephritis
Succinimide of mercury.....	71%	" " "
Benzoate of mercury.....	33%	" " "
Bichloride of mercury.....	25%	" " "
Cacodylate of mercury.....	25%	" " "
Sozoiodate of mercury.....	25%	" " "

The oxycyanide and oxycyanate of mercury are not included, as these salts killed our animals within twenty-four hours; while well marked diffuse nephritis was produced, calcification was not in evidence.

B. Soluble salts of mercury administered intramuscularly in dose varying from .005 to .02 grm. per kilogram of body weight:

Salicylate of mercury (in piperazin water)....	100	per cent. severe nephritis
Succinimide of mercury	83	" " " "
Bichloride of mercury	30	" " " "
Benzoate of mercury	30	" " " "
Sozoidolate of mercury	0	" " " "
Cacodylate of mercury	0	" " " "

Judging, therefore, purely on the basis of the severity of the kidney lesions by histological examination, the salicylate of mercury proved most toxic for the kidney epithelium, succinimide of mercury coming second.

C. Insoluble salts of mercury administered intramuscularly in single dose, varying from .01 to .180 grm. per kilogram of body weight:

Salicylate of mercury	60	per cent. severe nephritis
Gray oil	50	" " " "
Calomel	31	" " " "

CONCLUSIONS.

1. Rats exhibit such variation in their resisting power to mercurial salts that too much weight should not be attached to minor differences in toxicity in the experimental findings.

2. While the maximum tolerated dose of the various salts may be widely divergent, when the doses are calculated in terms of pure mercury, they fall within relatively narrow limits.

3. In general terms, it may be stated that the toxicity of the various mercurial salts is directly proportionate to the amount of pure mercury contained.

4. The inorganic salts, as represented by the bichloride of mercury, are no more toxic than the numerous organic combinations that are commonly employed.

5. The differences in the molecular structure of the mercury compounds tested by us were found to be of relatively little importance as affecting their toxicity.

6. The bichloride of mercury was fatal, on the average, in intravenous doses above 2 milligrams per kilo of body weight; administered intramuscularly it was fatal on the average, above 6 mg. per kilo of body weight.

7. The average relationship as to the toxicity between the intravenous and intramuscular administration of mercury, in general, was about 4 to 1.

8. The insoluble preparations such as gray oil, calomel and the salicylate of mercury are absorbed at the rate of a little over 1 per cent. of the injected amount per day.

9. Even at the end of 6 or 7 weeks, almost 50 per cent. of the mercury of insoluble preparations may be unabsorbed at the site of the injection.

10. The injection of the usual doses of insoluble mercurial compounds at weekly intervals, must invariably lead to accumulation of the drug in the tissues.

11. Insoluble mercurial injections should be given only by the skilled physician after careful consideration of the dose and of the intervals of administration.

12. Mercury has a great affinity for the cells of the kidney, and this organ is one of the earliest involved in mercurial intoxication. Hence during the intensive treatment with mercury, the necessity of careful examination of the urine from time to time should be emphasized.

13. The nephritis produced by mercury is primarily tubular in variety; capsular glomerulo-nephritis of the exudative (hæmorrhagic) variety is frequent and practically always accompanies severe tubular nephritis. Calcification of the degenerated tubular cells has been found within forty-eight hours after the administration of mercury and always occurs in severe mercury nephritis, irrespective of the salt administered or the route of injection.

DISCUSSION.

DR. WILE said that Dr. Schamberg's paper was full of practical points. Some years ago work was done with the injections of insoluble mercurial salts in laboratory animals, from which work it was clearly shown that such animals developed arterio-sclerosis. It was thus probable from this and Dr. Schamberg's work that many of the changes we had been led to regard as syphilitic arteritis might really be arterio-sclerotic changes due to the direct action of mercury. This was particularly true of arterio-sclerosis of the renal system.

Referring to nephritis in syphilis, he said that they had been investigating every single patient who had received mercury in any form, with regard to renal irritation, and at some time or another every patient who had received adequate doses of mercury showed nephritis. Such a condition constituted an indication for the cessation of mercury.

DR. ZEISLER suggested that in managing and guiding syphilitic patients, the kidneys should be watched from the beginning. He did not think that the majority of physicians made a careful examination of the urine from the start. He then told of a case in point, which had impressed itself upon his mind, and which clearly illustrated the great importance of systematic urinary examinations.

DR. RAVOGLI congratulated Dr. Schamberg upon the excellent work he had been doing in the clinical study of the various remedies, and said that while he did not feel qualified to discuss the subject from the chemical standpoint, he would like to make a few remarks on the absorption of mercury based upon clinical observations. He had given metallic mercury in the form of gray oil to a patient, and in one point it had left a kind of bluish mark, which the patient wanted taken away; two years later, in opening the place, he found metallic mercury in the tissues which had not been absorbed. In the same way, with injections of old salvarsan in the muscles, the resulting abscesses contained an immense amount of detritus, and granules of salvarsan. It seemed that in using mercury by intravenous injections, we gave too small doses, and it did not act so quickly nor efficiently. Some years ago Ernest Lane presented, at the Dermatological Congress in London, a patient whom he had treated with 60 or 70 intravenous injections of oxycyanide of mercury, and he could not see the same amount of benefit which was usually obtained in ten injections of bichloride of mercury, intramuscularly. The speaker said that he had used intravenous injections of bichloride of mercury, 2 to 3 mg. per each injection. They had given the patient a great deal of pain, and it would seem that the therapeutic effect was very poor.

DR. FORDYCE expressed his appreciation of the very valuable work of Dr. Schamberg and said that this investigation showing the rate of absorption of intramuscular injections of insoluble mercurials should teach us that the therapeutic effects extended for some time beyond the date of the last injection. We had, therefore, a good reason for the intermittent plan of treatment and for the rest periods between courses of treatment. He called attention to the fact that the rate of absorption was facilitated by massaging the site of the injection after it was given. This distributed the mercury through the muscle and avoided the indurations which so frequently followed the use of salicylate of mercury, gray oil and calomel. The speaker was also interested in the experiments of Dr. Schamberg, showing that heating salvarsan increased its effect. He had employed this procedure during the past year and a half in preparing sera for intraspinal injections.

DR. ALDERSON asked the members for advice concerning some experiences in the treatment of syphilis, which had occasioned him a good deal of worry. During the past two years at the Stanford University Clinics, he had been making frequent systematic urinary examinations of all patients under treatment for syphilis. He had been carrying out the intensive treatment, particularly on the mercury side, as, mainly for financial reasons, many of the patients had not been able to receive as much salvarsan as desired. The result was that he had been having quite a number of cases of experimental nephritis. After injections of gray oil, these patients had "showers" of granular casts, albumin, etc., which persisted for some time, and he had been wondering in how many of them a Bright's disease may have been started. He was not using the gray oil as much as before, but preferred the salicylate of mercury. Even with the salicylate, however, there appeared frequently "showers" of casts and albuminuria, in patients previously free from this trouble.

DR. HAZEN said that in some cases of nephritis due to mercury the results may be very disastrous. In the past five years he had recognized five such cases, three of which terminated fatally. It was rather interesting to note that in one instance large overdoses were given at a homœopathic hospital. It was unsafe to administer mercury without keeping track of the kidneys.

DR. SCHAMBERG, replying to Dr. Wile's remarks, said that he and his associates had carried out a good many tests on the germicidal effect, on various organisms, of salvarsan in the test tube. Salvarsan *in vitro* exerted essentially an inhibitory influence upon microorganisms. At the end of 24 hours staphylococci suspended in bouillon failed to produce a cloud, but if a loopful of the

culture medium was transplanted to another tube of bouillon, the staphylococci will grow, thus demonstrating that they were merely restrained by the salvarsan and not killed. If, however, salvarsan was permitted to act for a period of two weeks, then the staphylococci were destroyed, so that while in the beginning salvarsan was merely inhibitory, it later became germicidal. The germicidal effect of salvarsan *in vitro* was 6 to 10 times less than that of mercury. It must be remembered that mercury in the test tube was the best germicide known; its superiority over salvarsan did not necessarily argue that the latter was not possessed of distinct germicidal properties.

In the communication just offered, the authors wished particularly to emphasize the strong contrast between salvarsan and mercury in animals, with respect both to their therapeutic effect on trypanosomiasis and also to the difference in toxicity. Dr. Schamberg felt that greater reliance should be placed on salvarsan in the treatment of syphilis and less on mercury. We knew from years of experience that mercury favorably influenced the lesions of syphilis and the course of the disease, but we could not demonstrate any destructive influence upon parasites in the blood of experimental animals. He could not pretend to say how mercury acted, perhaps indirectly as a germicide; large doses of mercury could not be given without the risk of producing toxic effects, particularly upon the kidneys. They had made up certain combinations of mercury and organic arsenic. The amount of arsenic that could be introduced into such a combination was distinctly limited by the amount of mercury contained therein; such preparations did not produce results materially better than those obtained by the inorganic mercurial preparations. In working an organic arsenic compounds, the authors had reproduced salvarsan and had made some products closely allied to it. The arseno-benzol made by them was carefully tested out, chemically and biologically, on animals, against the Ehrlich product. The results obtained were practically the same. They had given about 50 intravenous injections of this drug to hospital patients with little or no reaction and with splendid therapeutic results.

The communication made was chiefly intended as a plea for the more careful use of mercury and for a most thorough chemical and microscopic examination of the urine in persons who were taking a considerable quantity of this drug. The toxic effect of mercury upon the kidneys, when the drug was given in considerable amount, constituted a real danger that must be carefully guarded against.

A CUTANEOUS LESION CAUSED BY A NEW FUNGUS (PHIALOPHORA VERRUCOSA).

By C. G. LANE, M.D., Boston.

Assistant Physician, Dermatological Department, Boston Dispensary.

THE first definite date upon which has been recorded an instance of a cutaneous lesion caused by a fungus belonging to the group of hyphomycetes was in 1894. Gilchrist, at the American Dermatological Association's meeting in Chicago, reported a lesion believed to be due to organisms of this group, or, as he called them, budding saccharomyces; and Busse, working independently in Germany, a few months later reported a similar case. To these

PLATE LV.—To Illustrate Article on A Study of the Comparative Toxicity of the Various Preparations of Mercury, by Drs. SCHAMBERG, KOLMER and RAIZISS.

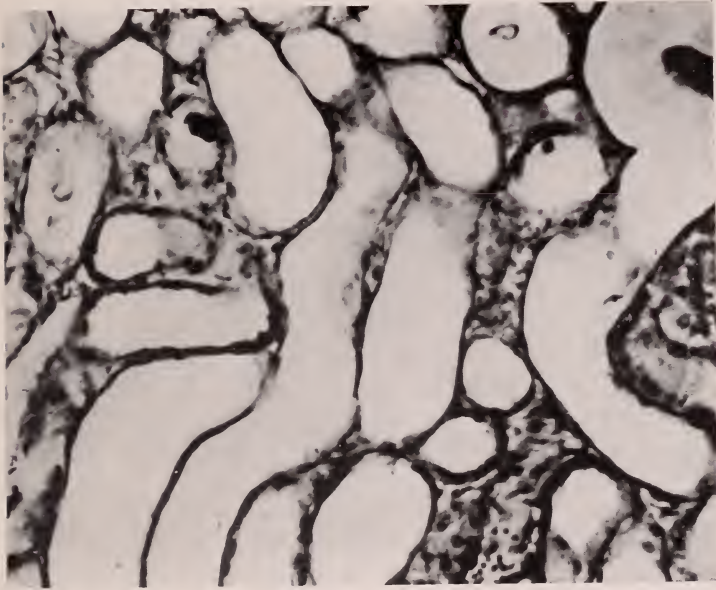


Fig. 2.

Mercury nephritis.

Extreme edema of tubules in the cortex of the kidney of a rat removed 24 hours after the intravenous injection of .003 grm. per kilo of body weight of oxycyanide of mercury.

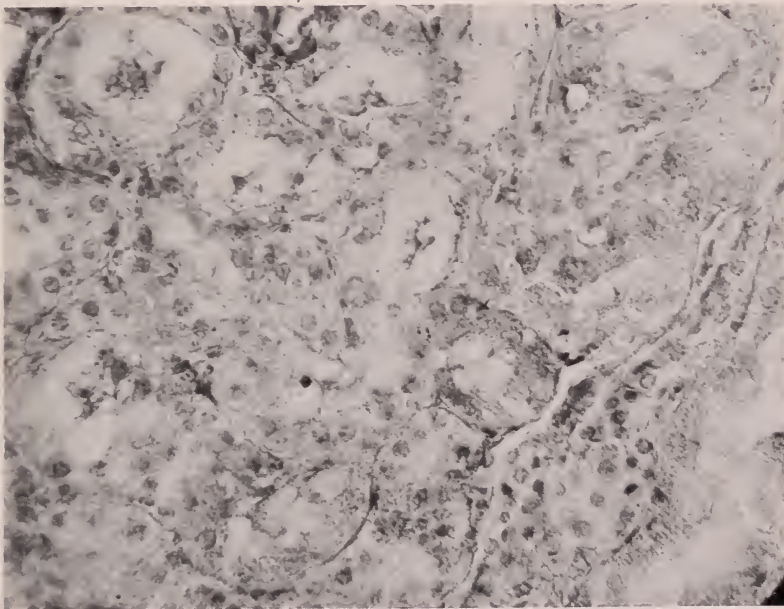


Fig. 1.

Mercury nephritis.

Early tubular changes. Kidney of a rat removed 24 hours after the intravenous administration of .006 grm. per kilo of body weight of bichloride of mercury.

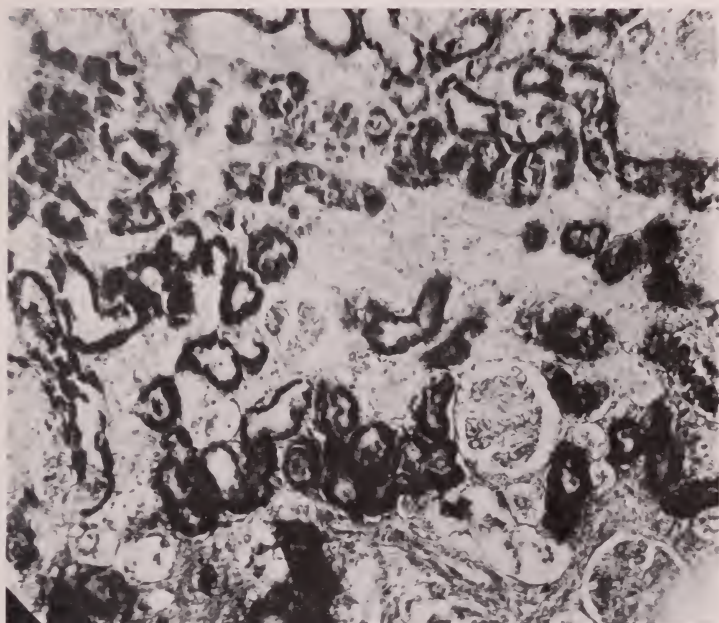


Fig. 4.
Mercury nephritis.

Kidney of a rat removed 72 hours after the intravenous injection of .003 gm. per kilo of body weight of succinimide of mercury.

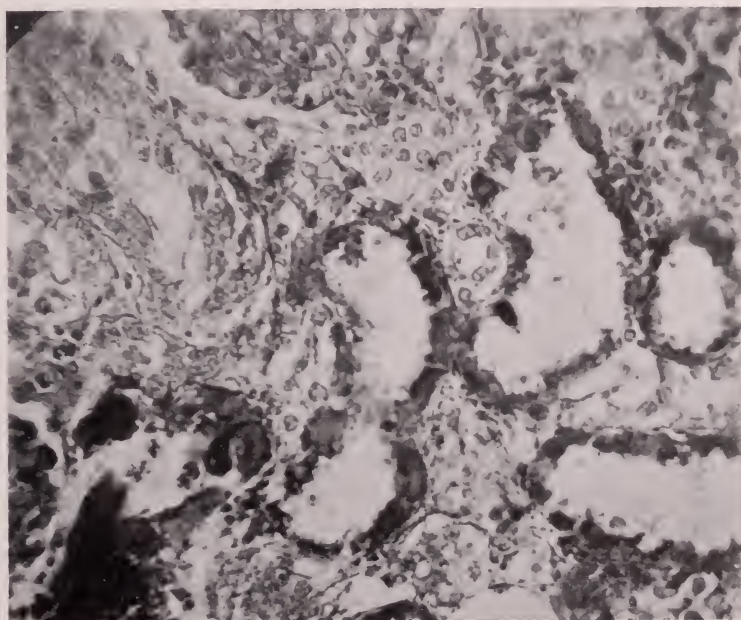


Fig. 3.
Mercury nephritis.

Severe tubular nephritis with calcification. Kidney of a rat 5 days after the intravenous injection of .003 gm. per kilo of body weight of salicylate of mercury in piperazin water.

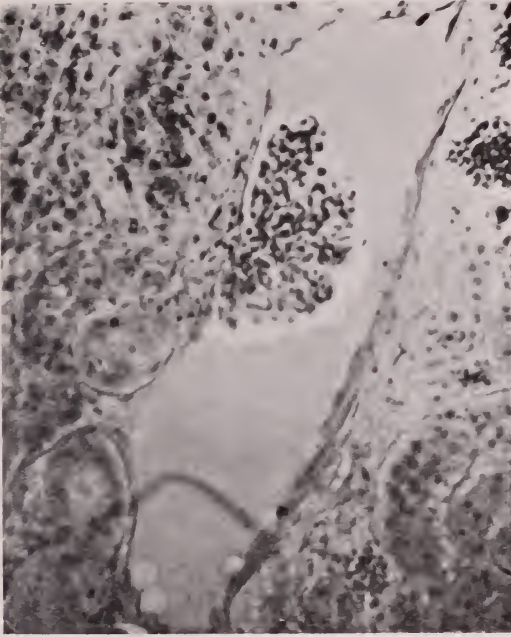


Fig. 6.

Mercury nephritis.

Exudative (serous) glomerulonephritis. Kidney of a rat removed 24 hours after the intravenous injection of .002 gm. per kilo of body weight of oxycyanide of mercury.

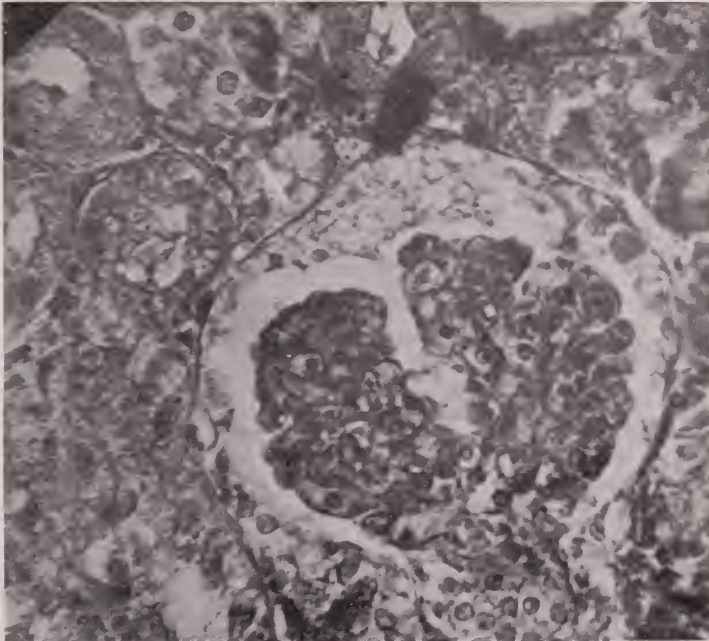


Fig. 5.

Mercury nephritis.

Exudative (hemorrhagic) capsular glomerulonephritis. Kidney of a rat removed 48 hours after the intravenous injection of .003 gm. per kilo of body weight of succinimide of mercury. Note tubular nephritis with early calcification.

lesions the term blastomycosis was given later. In 1898, Schenk reported a case of refractory cutaneous abscesses caused by a fungus of a different type, and to this was given the name of *Sporotrichon Schenkii*. Other cases of both diseases were reported, and in 1906 De Beurmann and Gougerot studied the sporotrix in general and the clinical forms, especially of the syphiloid type. Numerous cases of sporotrix have been reported in France, and in the last two or three years several cases have found their way into our own literature, so that both sporotrichosis and blastomycosis have been watched for by dermatologists, with the result that more cases have been encountered. In the Middle West, particularly Chicago and the Mississippi Valley, many cases of blastomycosis have been reported recently. Several other fungi have been named as the causative factors in cutaneous lesions, but the majority of cases which have been reported are usually included under the head of blastomycetic dermatitis or sporotrichosis; and it is with the idea of adding a little to the knowledge of cutaneous fungi that the present case is reported.

The case described below is unusual in that the causative factor is a fungus with characteristics not yet reported as the cause of cutaneous lesions, and also not recorded in the botanical classification, according to the authority of an eminent botanist. The lesion was considered clinically to be verrucous tuberculosis and was sent to the laboratory as such. The laboratory reported, after an examination of the stained section, the diagnosis of blastomycosis. Cultures taken from the lesion, as they grew, were not typical of the known types of blastomycetes. Further studies were made with the microscope, with various culture media and by inoculation, and the data obtained failed to classify it among the fungi causing pathological lesions. The data, photographs, cultures, and microphotographs were submitted to Professor Thaxter of the Botanical Department of Harvard University, who stated that as far as he knew this particular type was unknown and that it had not yet been classified. He suggested for this new genus the descriptive name *Phialophora* (a small cup bearer) to which has been added the term *verrucosa*, and a table is appended showing the position which it occupies in the plant kingdom.

Credit for the experimental work must be given wholly to Dr. E. M. Medlar, working in the Boston City Hospital Pathological Laboratory under the direction of Dr. F. B. Mallory. His interest was aroused by the dark-colored growth resulting upon the culture media. It was thought to be a contamination, but the organism was found in practically all cultures taken, and also in those taken under

the most careful aseptic precautions at the time of the excision of the second lesion. In carrying out the research work he devised a new method of making gelatin sections especially suitable for the examination of the growth of fungi and bacteria within the media. The complete account of his experimental work has been published in a current number of the *Journal of Medical Research*, and he has been kind enough to supply me with an outline of his work and the photographs which are submitted with this paper.

A description of the case follows, with an outline of the laboratory work done by Dr. Medlar, and the photographs obtained from the laboratory of the Boston City Hospital. I am also indebted to Dr. J. H. Bufford, Chief of the Dermatological Clinic at the Boston Dispensary, during whose service the patient entered the clinic, for the privilege of reporting the case.

CASE REPORT.

J. P., nineteen years old, Italian, living in East Boston, was referred to the Dermatological Department of the Boston Dispensary by the Surgical Department for the failure of an abscess on his buttock to close within a reasonable time after operation. He had lived in East Boston for the last year and a half, and for a year previous to that he was in Detroit most of the time, making one trip as far west as Denver. Previous to that he had lived in Boston and Revere since coming to this country, when he was seven or eight years old.

PAST HISTORY. Negative, except for an operation at the Boston City Hospital nine years ago, when a gland was removed from the right side of his neck.

PRESENT ILLNESS. About a year ago there appeared on the right buttock a small "pimple," which he squeezed and from which he obtained some material. A scab formed and the process was repeated. There has been comparatively little discharge and the lesion has gradually increased in size. He has had no pain and it has not been tender. About 7 or 8 cm. away from this lesion he noticed, about six months ago, a rather hard, painless lump, about as large as a marble, which gradually became softer without giving pain. He thought it was ready to be opened and came to the Surgical Department, where it was incised under local anæsthesia and a diagnosis of furunculosis of the buttock recorded.

EXAMINATION of the first lesion showed a small tumor in the skin, just outside the ischial tuberosity. It was about 2.5 cm. by 2 cm., purplish in color, raised about 3 mm. above the surface, rather soft, not tender, with an irregularly papular surface, the top of which in places was slightly grayish. There were a few grayish scales on the lesion. There was no discharge at the time of examination. The second lesion was the one which had been operated upon in the Surgical Department. This showed, at the time when he visited the Dermatological Department, a purplish, slightly raised, rather soft area about 2 cm. in diameter, freely movable and not tender. From a small crater-like opening in the centre there could be expressed a slightly gray, somewhat cheesy substance mixed with a little blood.

The lesion, with its color and sharply localized, irregularly papular growth, seemed to resemble a tuberculosis of the verrucous type. Of course, it was an unusual position for such a lesion and the picture

presented was not exactly typical of a tuberculosis verrucosa, but it seemed to resemble this more than any other condition and this was the diagnosis which was made. With this diagnosis in mind, excision of the discharging lesion was recommended. Under local anæsthesia (one per cent. cocaine solution) an oval incision about the lesion was made and the tumor was removed intact. The wound was closed with horsehair, a dry, sterile dressing applied, the stitches removed on the eighth and ninth days, and the wound healed by first intention. The specimen removed was sent to the Boston City Hospital laboratory for confirmation of diagnosis. The diagnosis returned was blastomycosis.

Even when this diagnosis was returned and the differential diagnosis of the case reviewed, the appearance of the lesion seemed very inconsistent with the usual type of blastomycosis lesion. This usually begins as a small papule or papulo-pustule which slowly increases in size, becoming slightly raised and crusted. Beneath the crust is usually a small amount of seropurulent fluid, especially in the crevices of an irregularly papular surface. The border of the patch is usually slightly indurated, deep red in color, slightly elevated and infiltrated, and covered by a grayish crust as above described. These smaller patches may coalesce or increase peripherally and in time become one large crusted papillomatous area of a deep red color, with quite an elevated edge. With this there is apt to be, after a time, some scarring where the infection has passed on. The border of these large patches is usually fairly characteristic. It sharply marks off the patch from the normal skin, is dark red or purplish in color, and, when looked at closely, there are to be seen numerous minute abscesses, oftentimes deep-seated. These, when carefully punctured, will exude a small amount of glairy mucus, while the larger ones may show definite pus formation. The disease is usually painless, chronic in type and may present a combined picture of active process with the scarring. The glands are not involved.

The lesions did not resemble those of sporotrichosis, which arise, usually, on the hand as a small nodule or discharging ulcer with the subsequent appearance, at a varied length of time, of nodules upon the arms along the course of the lymphatics. These usually become adherent to the skin, become violaceous in color, soften and break through the skin, discharging a yellowish-gray pus.

The condition did not suggest, in the least, a syphilitic condition. The history, the appearance of the lesion, its color and absence of tendency to ulcerate served to practically exclude this condition from the diagnosis.

It was thought best to excise the other lesion as long as it was so sharply localized. This was done under local anæsthesia by a vertical incision. Especial care was taken to make sure that the incision was outside of any pathological tissue and the tumor was removed in an elliptical piece of skin. The stitches were removed on the eighth and ninth days, and the wound likewise healed by first intention. A section was made through the nodule under aseptic conditions and material from the centre was planted on various media. It was also inoculated into guinea pigs and specimens of the tissue were immediately placed in fixing solutions. The diagnosis was confirmed on this lesion at the time, but, as the cultures grew, Dr. Medlar reported certain characteristics of the growth in various media which were inconsistent with the usual growths of blastomycetes. The complete report of his work was published in a recent number of the *Journal of Medical Research*, as I have said, and I submit here an outline of his work which he kindly furnished me.

The two specimens presented much the same gross characteristics. In the central portion of the epidermal surface there was an irregular, raised, firmly nodular, grayish-brown area. Section through this part showed considerable elevation in the nodular area. This area was opaque and of a bluish-gray color. The remainder of the section was distinctly gray. The epidermis was not noticeably thickened.

Under the microscope, the cellular reaction toward the fungus resembled a typical so-called blastomycetic lesion. About it was observed a moderate increase of connective tissue in which the cell elements indicated an inflammatory reaction varying from acute to chronic in type. The reaction was, for the most part, found in the corium, but was also found to some extent in the epidermis. In the region where the acute inflammatory exudate predominated, this exudate consisted largely of polymorphonuclear leucocytes with some fibrin deposit and an occasional endothelial leucocyte, often localized into what might well be called miliary abscesses, in which one or more organisms were often present. The more marked chronic inflammatory reaction consisted of sections of endothelial leucocytes, foreign-body giant cells, and an occasional eosinophile and lymphocyte. In these areas the fungus occurred singly or in clumps, in giant cells, in endothelial leucocytes, or free in the tissue. The milder type of chronic inflammatory reaction consisted mainly of lymphocytes, plasma cells and eosinophiles, with a rare endothelial and polymorphonuclear leucocyte present. In these areas degenerating forms of plasma cells and eosinophiles, containing basophilic

PLATE LVIII.—To Illustrate Article on A Cutaneous Lesion Caused by a
New Fungus (*Phialophora Verrucosa*), by C. G. LANE, M.D.



Fig. 1.
Lesion before excision.

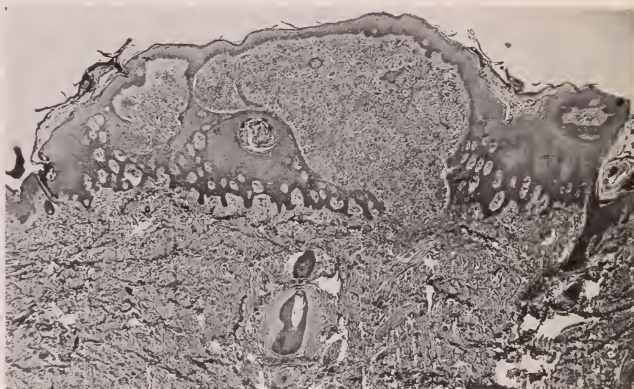


Fig. 2.
×—300. Section showing entire lesion.

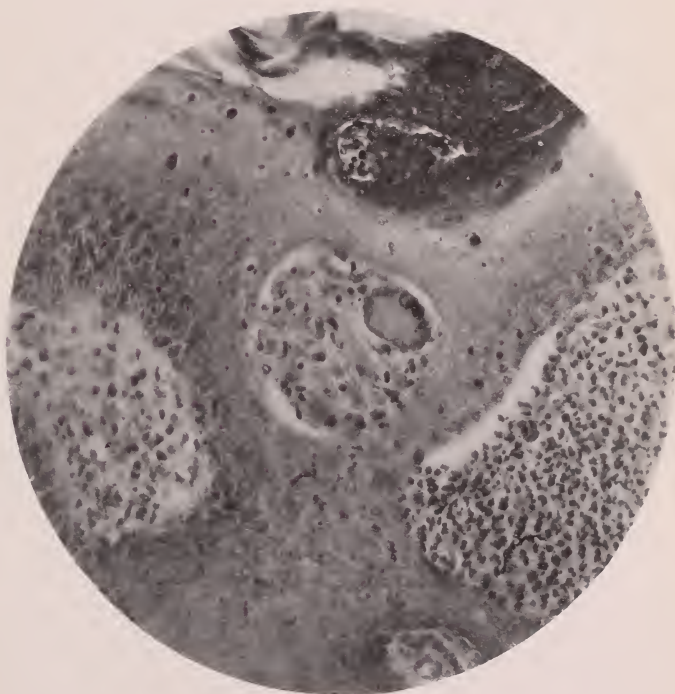


Fig. 3.
×—1,000. Tubercle in epidermis.

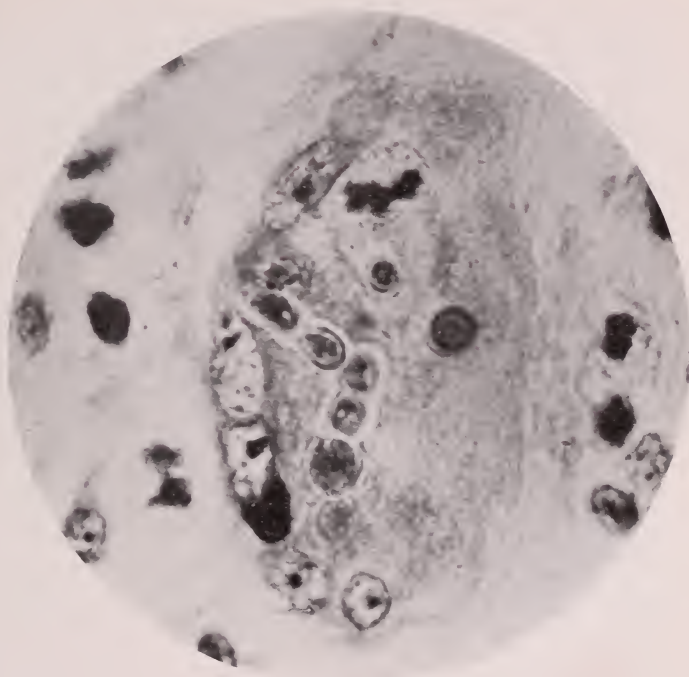


Fig. 5.
×—2,000, Chain of conidia in giant cell.

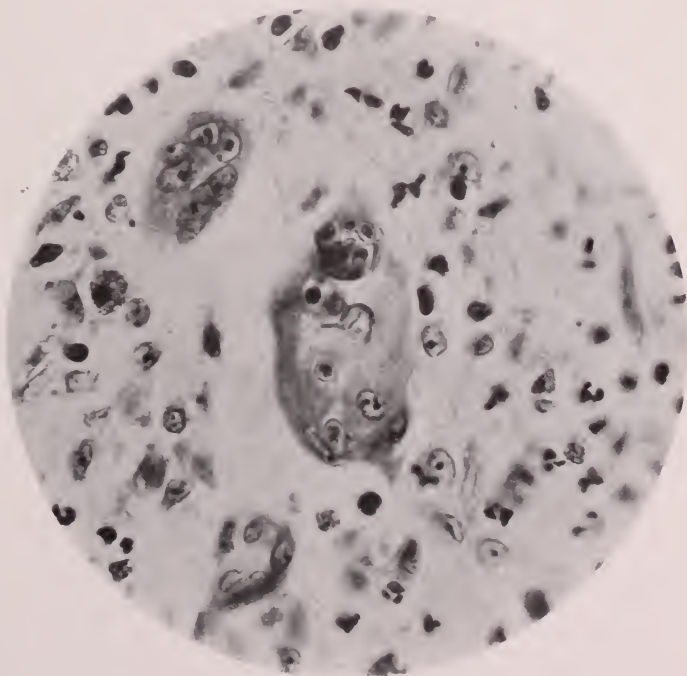


Fig. 4.
×—1,500, Organisms in giant cell, some showing septation.

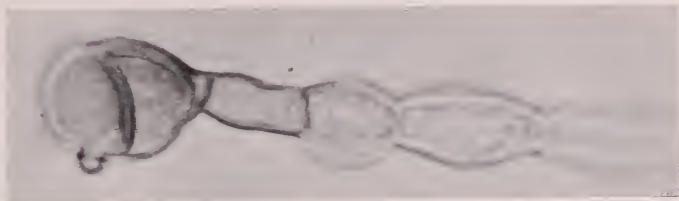


Fig. 8.
×—2,000, Sclerotic cell from culture—shows septation.

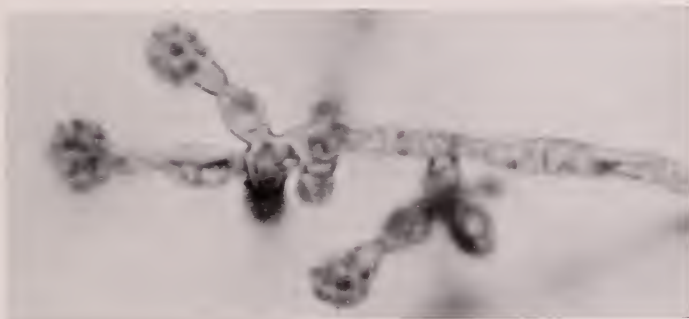


Fig. 7.
×—2,000, Conidia on aerial hyphae.

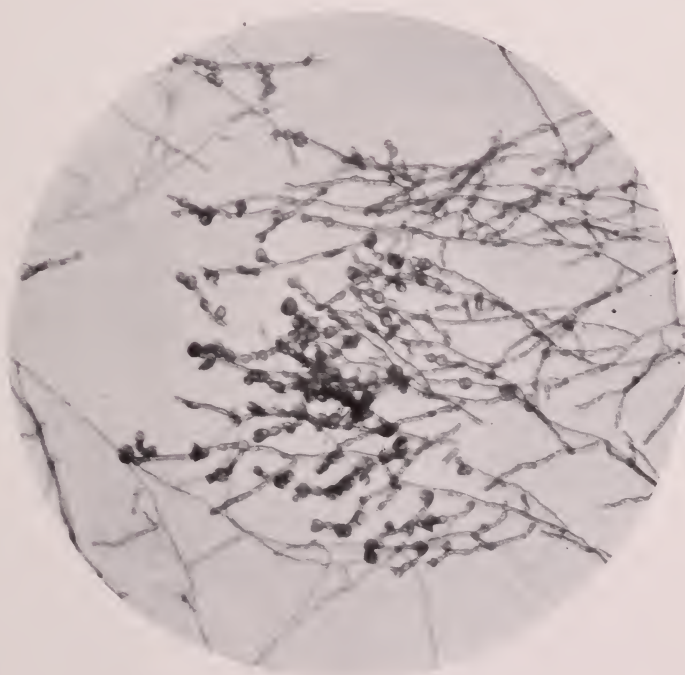


Fig. 6.
×—500, Sclerotic cells—section of culture in hydroecle agar.

or acidophilic hyaline-like droplets, were fairly common. The organisms, either in single cells or in small groups, were commonly found free in these areas of mild inflammatory reaction. Sections stained for tubercle bacilli gave negative results.

Dr. Medlar further stated that on all the culture media used the colonies first became visible as small black dots at the end of four or five days. They grew well, though slowly. The best growth obtained was upon wort agar, potato, turnip, carrot, dextrose agar and bread crumbs. Litmus milk was turned deeply alkaline. No nodule was produced in peptone solution. No acid production occurred in lactose, maltose, saccharose, mannite, inulin or levulose. Slight acid production occurred in dextrose and dextrose bouillon. The fungus tended to develop individual colonies which remained separate unless a large number were close together when they fused in a brownish-black, felt-like mass. In cultures where there was an abundant growth, considerable chocolate-brown, water-soluble pigment was produced. Abundant aërial hyphæ production occurred in all media used except in hydrocele agar, blood serum and the liquid media.

The fungus appeared in the tissue in two forms: first, sclerotic cell; second, conidium (budding form). The individual sclerotic cell varied from 8 to 15 microns in diameter. It was round or oval, and had a heavy brownish-black cell wall. The protoplasmic content was usually finely granular with a few small coarsely granular areas and an occasional fat droplet. The sclerotic cell, during the process of septation, sometimes increased to 20 or 25 microns in diameter.

The conidia were formed from buds arising from the sclerotic cell or the individual portions of the septate sclerotic cell. These conidia were single or formed chains of from 2 to 5 units. At first, the conidia were smaller than the parent cell, but they gradually increased in size until they equalled or excelled it. They could go through the sclerotic cell stage and complete the cycle, as far as could be determined in the tissue.

The fungus grew on the culture media as a branching, septate, grayish-brown to brownish-black mycelium, with the hyphæ for the most part fairly straight and cylindrical in cross section. The individual cell of the mycelium varied from 8 to 25 microns in length, and 2 to 6 microns in diameter. It had a heavy brownish cell wall which enclosed a finely granular cytoplasm, embedded in which were numerous fat droplets of varying size. There was a definite nuclear structure in each cell.

Reproduction was asexual and took place in two ways: (1)

Conidial formation by budding from sclerotic cells, as in tissue. This mode, as far as was observed, occurred only in the depths of blood serum and hydrocele agar. The sclerotic cells were formed at or near the end of the terminal hyphæ and from these sclerotic cells a single conidium or chains of conidia might arise by a budding process. (2) Semi-endogenous conidial formation by budding from specialized sporogenous cells on the aërial hyphæ. The conidia on the aërial hyphæ were formed by a semi-endogenous budding process from a special sporogenous cell. This cell might be laterally or terminally located on one of the main hyphæ or on short lateral branches. The conidia were separated from the parent cell as soon as mature, but instead of falling into the media, they cohered until a globular sporangial-like mass of from 4 to 20 or more conidia was formed.

The individual conidia varied from 4 to 6 microns in length and averaged about 2 microns in diameter. They were ovoid and had a definite yellowish hyaline cell wall which with age became brownish. The protoplasmic content was finely granular and had embedded in it a varying number of fat droplets. A definite nuclear structure could be demonstrated.

The fungus was non-pathogenic for guinea pigs. It produced in rats and mice a chronic skin lesion similar to that in man, and intraperitoneal inoculation caused extensive tubercle formation, in from four to eight weeks.

With these data at hand, Professor Thaxter, of the Botanical Department of Harvard University, reported that he knew of no fungus, either saprophytic or parasitic, for man or other animal, the description of which corresponded closely with the description of this fungus. He considered that it was probably the type species of a new genus and that in the botanical classification it should be grouped with blastomycosis, sporotrichosis and actinomycosis under the imperfect forms of the Fungi. These Fungi imperfecti, so-called, with the Ascomycetes and Basidiomycetes and other groups, form the class of Fungi and with the Algæ constitute the branch Thallophyta in the botanical classification.

HELIO THERAPY IN DISEASES OF THE SKIN.*

By HARVEY PARKER TOWLE, M.D., Boston.

(From the Skin Department, Massachusetts General Hospital.)

HELIO THERAPY is by no means modern, being mentioned by Herodotus as far back as 484 B.C. Finsen's studies of the properties of light, however, added system and exactitude to the ancient procedure and gave to the sunlight cure new life. About 1905, Rollier established a hospital for the surgical tuberculosis of childhood, in which heliotherapy was to have the first place. Not long after, Revillet opened a second heliotherapeutic hospital on the shores of the Mediterranean, at Cannes. Since then other less well known sun-cure establishments have been founded.

So far as is known, there is no hospital in this country which is devoted solely to heliotherapy, although a large sanitarium in Connecticut has adopted full exposure of the body to the sun as one of its recognized, routine methods of treating neurasthenia.

My own interest in the effects of light dates from 1904, when the sun was used to excite fluorescence in substances applied for the cure of cutaneous disease, but it was not until 1909 that direct sunlight exposure was used alone. At that time the area exposed was limited to the part diseased. The technique was an adaptation of the method of Dr. Ring, of Arlington, Mass., but whereas Dr. Ring concentrated the sun's rays by means of a burning glass, I dispensed with the glass and exposed the affected region directly.

The first case was that of a young man whose left knee had become tuberculous eight years before (1901). An apparently successful operation had been followed by complete freedom from all symptoms for seven years, when fresh signs of disease appeared in the bone, just below the knee. A short interval of freedom succeeded an operation upon the bone but, after three months, a typical tuberculous ulceration, accompanied by the formation of several secreting sinuses, appeared on the calf, just below the previously affected knee. After ineffectual attempts to secure healing, for two months, the case was turned over to me. I prescribed the ordinary external treatment, but ordered, in addition, a daily exposure of the immediately affected area and a wide zone surrounding it, for one

* Read before the 39th Annual Meeting of the American Dermatological Association, New York City, May 13-15, 1915.

hour to direct sunlight. In two weeks, the pain had gone, the ulcer had healed fully one-half, the sinuses had nearly ceased to discharge and healthy granulations covered the surface of the still open areas. In two months and a half the tuberculous process had nearly disappeared.

After the publication of Rollier's article, in June, 1912, on Heliotherapy in the Treatment of Surgical Tuberculosis, and of Revillet's, in January, 1913, it was decided to adopt their more exact methods in the future.

Their general recommendations may be summarized as follows. They insisted, first, upon the necessity of combining hygienic measures and the palliation of symptoms with the sun treatment. They declared, with much emphasis, that the combination was essential to complete success. Fixation apparatus for the relief of pain was permitted so long as pain persisted but, immediately it disappeared, they insisted that all apparatus must be removed at once. Operations should be avoided unless the indications are actually imperative. If operation is undertaken, not one bit more than is absolutely necessary should be done. They contend that the most skilfully performed operation cannot avoid some degree of surgical damage and that all surgical damage is harmful according to its degree. Even the opening of an abscess must not be performed carelessly but with the very smallest incision which will give drainage.

At first, none but the cases of surgical tuberculosis in children was admitted to these hospitals. With increasing experience, this limitation was gradually modified until now no distinction is drawn between adults and children nor between the various forms of tuberculous disease. They have treated by heliotherapy, in recent years, with good results, many cases of skin tuberculosis; such as, for example, scrofuloderma, tuberculous ulcers and lupus.

Among the effects ascribed to heliotherapy are decongestion, strikingly prompt relief of pain, resorption of diseased tissue and of infiltrations, throwing off of sloughs, closure of sinuses, decrease, if not elimination, of secretions, prevention of pus, resorption of scars and stimulation of healing, and epidermal replacement. When scars follow, they are never keloidal but always soft and supple. Oftentimes they are replaced by apparently normal tissue.

Rollier and Revillet recommend that the sun treatment should be carefully graded, according to the patient. The object should be to produce the deepest and most rapid bronzing of the skin of the entire body which is consonant with the avoidance of a burn. The first sign of erythema should be a signal to stop the sun exposures

until its last trace has vanished. Burning should never be allowed. On the other hand, the deeper and the quicker the tanning, the better is the prognosis.

At the outset, the duration of the sun exposure should not exceed ten minutes and the extent of the exposed surface should be limited to small areas, such as the hands or the feet. Gradually, the length of duration and the extent of surface exposed may be increased until, after several days, they include the entire daylight hours and the whole body surface.

Rollier's explanation of the effects of the tanning upon the general organism is that the pigment granules of the skin absorb light and act as reservoirs from which, later, by a species of fluorescence, they give up their store to the organism, little by little. As he puts it, "The skin is not merely an organ of elimination and sensibility. It distributes throughout the organism the health-giving oxygen which it has absorbed from the light and sun."

Since 1913, Rollier's rules have been followed as closely as possible. The vagaries of a New England climate and the restrictions of crowded neighborhoods, however, are not favorable either to the unrestricted choice of cases or to the most efficient employment of the method. Naturally, the number of cases treated is small and, therefore, the results are inadequate to represent the best in the method. Nevertheless, in the face of these obstacles, the method of heliotherapy in skin diseases accomplished enough to justify calling it to the attention of the Association.

As has been mentioned, the series is too small for definite conclusions. Therefore, tabulation is not worth while. Nevertheless, that the cases possess considerable suggestion will be demonstrated by the brief case reports which follow.

REPORT OF CASES.

CASE 1. Some months before her first visit, a patient, 25 years old, with an arrested pulmonary tuberculous disease, showed signs of tuberculosis in the skin of the dorsum of the first phalanx of the left little finger. Finally, the skin of the whole dorsal surface became so infiltrated and thickened by the spread of the process that it was impossible to flex the finger more than 45 degrees. One after another, the dorsal surfaces of the other fingers of the left hand were attacked. Two months ago the dorsal surfaces of four fingers of the right hand became involved, disabling the right hand also. Between the breasts, on the anterior surface of the left shoulder and on the upper left arm, there existed an eruption which very strongly suggested lichen scrofulosorum.

Treatment consisted of inunctions of an ointment containing, in one ounce, five drops of Koch's Tuberculin *alt.* (P. D. and Co.) and of graduated sun exposures which finally included the whole body, a length of one hour. In eleven days the cutaneous disease was 50 per cent. better. In five weeks the fingers were

almost normal. The sole evidence of the tuberculous disease remaining was a small nodule on one finger which was about the size of the head of a pin. The processes on the body and on the arm had disappeared except for a single small desquamating area on the shoulder. Five months after beginning the sun cure the patient was shown at a meeting of the Graduate House Pupils of the Massachusetts General Hospital. At that time the patient's aspect was not at all characteristic of tuberculosis. She had gained greatly in weight and looked actually robust. The signs of pulmonary disease were practically gone. There was no cough and no night sweating. The appearance of the hands was absolutely normal, but, on palpation, there could be felt, over one phalanx, a subcutaneous, rounded nodule about the size of a small pea. The skin of the body, shoulder and arm no longer showed even traces of the previous lesions.

CASE 2. This was also a case of tuberculosis. Some years before the young man was admitted to the hospital, tuberculous lesions had appeared on the floor of the left nasal vestibule. The disease extended gradually to the tissues covering the tip of the nose and to the entire left half of the upper lip. The affected areas were greatly distorted by the pronounced enlargement caused by the invading process, and milium ulcers appeared upon the floor of the nostril. At first the sun cure was not employed. The only treatment was by various external remedies, including an ointment of Koch's Tuberculin *alt.* Healing was very slow. After a few weeks graduated sun exposures were added to the other measures. From that time the advance was comparatively rapid. Six weeks after beginning heliotherapy the patient thought himself so well that he could treat himself at home and asked for his discharge from the hospital. The lips and nose were still red and slightly infiltrated, but their size was normal. The nasal ulcerations were completely healed and there was every prospect of a complete cure. The patient failed to carry out his directions. As a result, he was readmitted in two months with symptoms nearly as extensive and as severe as at first. He was at once given the same combination of external treatment and of full sun exposures, but this time the result was poor.

CASE 3. Heliotherapy was tried in lupus vulgaris, but usually with unsatisfactory results. For example, a boy, 15 years old, who presented a single patch on one cheek, was given the combined treatment of external measures and graduated sun baths of the whole body. The only local result was a lessening of the intensity and the softening of the infiltrated area. The usual increase of bodily vigor was, however, not lacking. And this result was typical of those obtained in the few cases of similar nature.

Several varieties of pus-forming affections were treated by heliotherapy, invariably with positive results.

CASE 4. In one instance, a boy complained bitterly of a very extensive eruption of indurated acne upon his back, associated with deep, secondary abscesses. External treatment, with and without the combination of injections of stock and autogenous vaccines, failed to relieve the intense discomfort and the pain of the eruption. Three exposures to sunlight sufficed to eliminate nearly every trace of inflammatory redness and of pus, and to render the skin insensitive to rather rough handling.

CASE 5. An Armenian boy had suffered for seven years from constant crops of pustules about the hairs on the left lower leg. At the time of admission to the hospital the skin over the antero-lateral portions of the leg, from the knee to the ankle, was thickened by deep cellular infiltrations and, to the touch, felt almost sclerotic. Scattered over the surface were innumerable pustules, each one about a hair and almost always surrounded by a painful zone of inflammation. Many hairs had been destroyed by previous lesions.

For one day an antiseptic salve was applied, but was then discontinued. Thereafter, no form of treatment other than heliotherapy was employed. After six days of localized exposures to the sun, the pustular process had almost entirely ceased. Only a very scanty number of infected follicles remained. On the eighteenth day of his hospital residence the patient was discharged, when the following note was entered in the records: "The folliculitis has absolutely stopped. The infiltration has disappeared and only a brownish discoloration and a slight scaliness remain. To all external appearances, the disease is absolutely cured."

CASE 6. Heliotherapy was employed with good effect in other forms of pustular disease in which the symptoms were acute and an abundant sero-purulent discharge was a prominent feature. The following case is illustrative. As the result of a violent external application, one of the patient's feet had become intensely red, tremendously œdematous and swollen from the ankle to the toes, and covered with serous blebs and vesicles which were secondarily infected. When admitted to the hospital, the swelling and œdema were excessive. The epidermal layer was missing over a large area, exposing to view the red, raw, and abundantly secreting rete. For a considerable distance beyond the denuded area the epidermis was floating free from its attachments to the tissues beneath and was anchored only at its outer edge. Beneath it was collected a great amount of sero-purulent secretion. The part was bathed twice daily with a solution of sulpho-naphthol, 4:1000. The only other treatment was systematic sun exposures. The patient was discharged two weeks after admission with nothing but a few minute, superficial pustules to indicate the previous severe, denuding and exudative process.

CASE 7. A different sort of test of heliotherapy was furnished by the case of a very stout Jewish woman of rather advanced years. Upon one leg was a very sharply defined ulceration in two parts which, together, involved the whole middle third of one leg on its antero-lateral surface. After various methods of treatment had been tried with only ordinarily good results, heliotherapy was combined. Healing was tremendously accelerated at once. The patient was discharged three weeks after the sun exposures were begun and about five and one-half weeks after entrance. The leg was still red and somewhat œdematous, but only two shallow ulcerations remained, each of which was smaller than a twenty-five cent piece.

CASE 8. By accident, a case of acute vesicular eczema was exposed to the sun, with unexpected results. Without orders, a woman exposed herself one day for more than an hour to the direct action of a very hot sun. The reaction which followed was tremendous and confined the patient to her bed for two days. In the course of a week the effects of the sunburn had passed off. To our astonishment the disease had been changed from an acute inflammatory process with abundant serous exudation to a chronic, desquamative process with no visible exudate.

CASE 9. The last case illustrates the resorptive power of the sun. A small girl had been extensively burned about the upper chest, in both axillæ, under and over the chin, over the lower lip and on the sides of both cheeks up to the hair line. The shock was so great that for two or three weeks recovery was very uncertain. It did eventually occur, however, but the child was left with enormous, corded, hypertrophic scars and several ulcerated areas. Various forms of external treatment were prescribed, together with graded exposures to the direct sunlight of the body, from the hips upward. To-day not an elevation of the skin exists except a pencil-sized, corded band of scar tissue in each axilla. Elsewhere the skin is absolutely level. Over the larger portion of the burned area the hypertrophic scar tissue has been replaced by an apparently normal skin. Just below the sternal notch the skin presents the dead white color of an atrophy and palpation reveals the hard feel of a cicatricial process.

Below the angle of the mouth similar hard areas exist which, in extent, are about the size of a cent. Over the cheeks and the chin the fluctuating, bright red color, which follows excitement or exposure to the weather or even slight trauma, discloses the fact that the vessels of the part have not yet regained their stability, but still react with undue ease. Once the lower lip was much everted by the contraction of the scarred skin. To-day the lip is in position. Once the scars did not allow the child to raise her hands to her head. To-day she easily accomplishes the feat and the motion of the arms is very nearly normal in all directions. Elsewhere there has been a resorption of the scar tissue, and over the greater part of the burned area there has been an actual *restitutio ad integrum*. Inasmuch as there is evidence that the process of replacement still continues, there is ground for the hope that, eventually, the last discernible trace of scarring will disappear.

So far as our small series of cases shows, the lesson is that graded exposures of the body to the rays of the sun promote the general bodily vigor, discourage the growth of bacteria, decongest inflammation, encourage resorption of pathological exudates and of scar tissues, stimulate epidermization, cellular multiplication and reconstruction, and, above all, tend to relieve pain. The attainment of such beneficial results under the discouraging conditions which confronted us and in such diverse cutaneous affections encourages the belief that, under more favorable conditions, heliotherapy will be found to have a wider scope and a more brilliant place in the treatment of diseases of the skin. It is in the hope that these points may be tested that these experiences are reported.

DISCUSSION.

DR. CORLETT asked if he was correct in understanding Dr. Towle to say that he had used the direct rays of the sun without separating any of the special rays. Although the subject was ancient, as indicated in the paper, yet it may properly be considered a new one, and an important one. In the regions of the equator, the normal color of the human skin seemed to be dark. If a Caucasian or person with a white or blond skin migrated there, one of two things happened: either he assumed the outward attributes of the natives or the climate was said to disagree and he succumbed. In Jamaica we had an object lesson of this, covering a period of over three hundred years. The Englishmen who settled that island three to four hundred years ago had left their imprint on the inhabitants of the island, and to-day many of the natives of Jamaica looked like and to all appearances were Englishmen, though they had a decided mahogany color. Those who did not take on this tint or coat of tan died off in the course of a few generations. In observations made in southern California some years ago and published in the *Journal of the American Medical Association*, it was shown that in some this exposure gave rise at first to stimulation, followed in six months or so by a reaction, rendering neurotics worse off than when they began. So, we probably had in this treatment not only an active principle which may be advantageous, but also one which may give rise to some injurious effects.

Finsen separated the rays of the solar spectrum in his various experiments and used the red or heat rays in the treatment of certain diseases. Two years ago, in going over a hospital erected to his memory, the speaker noticed this idea carried out in the curtains of the hospital, which excluded all but the red rays.



Fig. 1.

Leg ulcer after one week of
heliotherapy.



Fig. 2.

Same ulcer after two
weeks of heliotherapy.

He said that Dr. Towle's observations were extremely valuable, and it was to be hoped that he will continue his experiments still further.

DR. CORLETT said that Dr. Pusey had misunderstood him in regard to the high or actinic rays. It was the actinic rays and not the heat rays that did the harm.

DR. RAVOGLI said that the open air and the sun directly had great influence on skin diseases. He had for some time been using the open-air treatment for burns and had gotten pretty good results from that method,—only exposing the resulting wound of the skin (when beginning to granulate, of course) for one or two hours daily to the open air. Some cases were very stubborn in producing epidermatization and he allowed them to remain exposed to the direct light of the sun for half an hour to an hour, with better results. In his opinion the direct light of the sun on the granulating wound had an antiseptic action. He had obtained very satisfactory results from open-air treatment and exposure to the sun in chronic leg ulcers.

DR. ALDERSON said that he had been interested in Dr. Towle's remarks about heliotherapy in dermatology. In California that method was utilized sometimes intentionally, and sometimes unintentionally. For the benefit of Dr. Pusey, he would state that southern California had no monopoly of sunlight, for there was plenty in San Francisco and its vicinity. Some years ago he had directed a patient suffering from psoriasis to expose himself as fully as possible to the sunlight. The man was superintendent of a temporarily abandoned mine in northern California, and was so situated that he could go around practically unclothed during the summer months, as he was the only one there. After a few weeks of such life, very thick and extensive plaques of psoriasis over his trunk and buttocks faded away completely. The man made no change in his diet. That was during the summer. During the three succeeding years he had no recurrence of the lesions, either summer or winter.

The relative infrequency of lupus vulgaris in California and other places where there was much sunlight practically every day, presented a very interesting possibility. The sunlight might have some inhibitory influence on the development of lupus vulgaris in the skin. In California, where there were so many tuberculous individuals from all parts of the country, it seemed strange that lupus vulgaris was a relatively uncommon condition. Dr. Alderson said that of a fairly large number of cases, he could recall only one instance of this condition during the last five years in a patient who had lived all his life in California. Practically all of these individuals with lupus who lived in California had come from other parts of the world with their lesions.

DR. TOWLE, in closing the discussion, said that so many points had been raised that he could not touch upon them all. Dr. Pusey had asked about the technique. It was important to regulate the exposure to the patient as to the time of reaction and susceptibility. That was well illustrated by a lay experience. Near Boston was a public bath which required only the wearing of trunks. There had grown up in the vicinity a class which called itself the Brownies, the members of which lay in the sunlight to get the bronzing. Gradually the time of exposure had been lessened as it had been found by experience that half an hour to an hour was enough for anyone. That was in line with experience in the therapeutic use of sunlight.

Replying to Dr. Corlett, he said that, in his opinion, the pigmentation of tanning acts as a filter to cut out certain undesirable rays. Rollier suggests that the pigment cells, undergoing this "tanning" change, become reservoirs of light; they gave off from their store of light little by little, and by that he would explain the increase in bodily vigor. There was one advantage of total sunlight exposures over artificial exposures to the various lights, with the other rays filtered out. There one did not get the general stimulation of the body.

In regard to the local effects of some of the rays, also referred to by Dr.

Corlett, the rays having the greatest penetration were the red, green and yellow. They lacked, however, the actinic powers of the less deeply penetrating rays at the other end of the spectrum. It was in order to test the claim that it was possible to use the weaker rays to carry the more active to greater depths than were possible for them to attain unaided, that he had experimented with fluorescent substances. The result suggested that the claim has at least some validity. Unknown to the operator, the tissues about to be exposed to the X-rays had been saturated, before the exposure, by means of a pad wet with a solution of eosin, 1: 300. It was not very long before the Roentgenologist appeared and reported that recent cases had reacted in a manner for which he could not account. Although the conditions of exposure were as before so far as he could determine, yet the effects were, all at once, curiously exaggerated. On the other hand, if eosin was used, but not excited to fluorescence, the effect was in no wise comparable.

Sunlight, we knew, contained all the rays in various proportions. It was not possible to say, however, whether its action was in part due to conditions simulating those described, nor, if such conditions existed, how great was their rôle.

As regarded technique, a summary of the rules would be as follows: Proceed cautiously, observing carefully. Seek bronzing without burning, regulating the dosage to the individual according to observation of the individual results. For systemic effects, total body exposures were preferable to local exposures of the diseased parts.

The best results were obtained in bacterial infections of the skin, notably in those due to the tubercle bacillus. In lesser degree, heliotherapy was beneficial in chronic inflammatory processes.

SOCIETY TRANSACTIONS.

NEW YORK DERMATOLOGICAL SOCIETY.

Regular Meeting, May 25th, 1915.

HANS J. SCHWARTZ, M.D., *President*.

ERYTHEMA MULTIFORME. Presented by Dr. WHITEHOUSE.

The patient was a girl, five and a half years of age. The eruption began three weeks previously, and at the time of presentation was generally distributed over the limbs and body, including the face and forehead. It consisted of raised, red, scaly plaques of varied outlines, with bullæ here and there, seated on an erythematous base.

TUBERCULOSIS OF THE SKIN. Presented by Dr. G. H. Fox.

The patient had come under Dr. Fox's observation a week before, having been previously treated by X-ray, terchloride of antimony, etc., without notable benefit. There was a line of crusted patches extending over the malar region. Dr. Fox said that he diagnosed the case as lupus vulgaris, though it was not of the ordinary variety. Dr. Robinson examined a specimen of the tissue and found the typical bacilli, so that there was no doubt of its being a tuberculosis of the skin. The diagnosis of lupus vulgaris was made to distinguish it from erythematous lupus.

ERYTHEMA INDURATUM SCROFULOSORUM. Presented by DR. WINFIELD.

The patient was a female, aged thirty-one, a native of the United States. Seven years before, she had had an outbreak of papules, located mostly on the lower limbs and buttocks. At first the lesions were papules but soon they became "blisters," the vesicles became crusted and gradually healed, leaving atrophic scars. In January, 1915, a few papules, similar to those of seven years ago, appeared on both calves; most of the papules became indurated, some of them broke down and ulcerated. Some of the larger ones were incised by her family physician. When she was presented before the Society there were about fifty various sized lesions scattered over the legs; some had resolved, others were ulcerating and some were just appearing. The von Pirquet test was positive. The Wassermann test had not been completed. The case was presented as a rather atypical example of Bazin's disease.

DISCUSSION.

DR. TRIMBLE agreed with the diagnosis of Bazin's disease. He had seen a number of such cases, and it was not so very unusual to have outlying small lesions of necrotic granuloma in association with the larger indurated lesions. It was an interesting case from that standpoint, however.

DR. FORDYCE said it was not unusual, in his experience, to see Bazin's disease associated with superficial papulo-necrotic lesions. He had seen the papulo-necrotic tuberculide of the upper extremities with the lesions of Bazin's disease on the legs.

URTICARIA PIGMENTOSA. Presented by DR. WHITEHOUSE.

The patient was a male child, five years of age. The eruption began at six months of age, its chief peculiarity being that it did not itch. The eruption consisted of round and oval-shaped lesions, darkly pigmented and slightly elevated, scattered over the trunk, limbs, neck and face.

The diagnosis was accepted without dissent.

FOLLICULITIS DECALVANS. Presented by DR. G. H. FOX.

The patient had been treated at various clinics, and the case had been diagnosed as alopecia areata, favus, lupus erythematosus, etc. There were groups of plugged follicles disseminated over the greater portion of the affected scalp, with areas of cicatricial tissue. Little bunches of hair could be pulled out, with the root sheath adherent.

DISCUSSION.

DR. MacKEE said that in the cases of folliculitis decalvans that he had seen there was no diffuse erythema and scaliness, but a folliculitis at the margin of a patch of alopecia, in which the skin was atrophic. The speaker had not noticed much follicular involvement in Dr. Fox's case, but there was considerable erythema and scaliness. In one or two places the erythema and scaliness were located in the centre of a patch of atrophy and alopecia, which suggested a return of the lupus erythematosus in scar tissue left from a previous attack. Severe itching was, as a rule, not a feature of either disease. The speaker had never encountered severe pruritus in a case of folliculitis decalvans, but he had observed it in several instances of lupus erythematosus of the scalp.

DR. TRIMBLE said that he had seen the patient once before, and on cursory examination had made a diagnosis of lupus erythematosus. He recognized the force of Dr. Fox's remarks about the unusual appearance of the patches, which would suggest folliculitis decalvans; still, it was his impression that there should

be a more active folliculitis around the margin of the patches, with a piling up of scales at the base of the hairs, to conform to the usual type of that disease. Whenever folliculitis decalvans was mentioned it always brought to his mind a very excellent photograph published by Dr. Jackson some years ago. This photograph could be seen in many of the text-books, and was his conception of a typical case. The case under discussion did not seem to him to have enough typical features to make a positive diagnosis of folliculitis decalvans, and he was still inclined to the diagnosis of erythematous lupus.

DR. WHITEHOUSE agreed with the preceding speakers, particularly with Dr. MacKee, in regard to the erythema and scaliness. The follicular elements which Dr. Fox had pointed out had apparently been scrubbed down and flattened out by treatment. The follicular element in the cases of folliculitis decalvans he had seen were uninfluenced by treatment. He thought it was more like lupus erythematosus than the follicular disease in question.

DR. JACKSON said that he had had a very similar case under observation, an undoubted case of lupus erythematosus of the scalp with multiple and multifiform patches scattered over the scalp. There were also one or two patches of the disease on the face. While it was usual to see that disease on the face when it occurred on the scalp, still it may be confined to the scalp. Dr. Fox's case had some features that suggested folliculitis decalvans, and as Dr. Fox had had the opportunity of studying it by daylight, he was unwilling to say that he was wrong, though he was inclined to the diagnosis of lupus erythematosus.

DR. WISE agreed with the previous speakers in the diagnosis of lupus erythematosus, but said that he hesitated in making such a diagnosis in cases where no lesions or scars of lupus erythematosus appeared on the face or ears.

DR. G. H. FOX said that although the consensus of opinion seemed to be in favor of lupus erythematosus he still felt certain that it was a case of folliculitis decalvans. In this case there had been a severe pruritus, more than he had ever seen in lupus erythematosus. The woman had not been able to sleep at night on account of the intense itching, and last week she had excoriated the margins of the patches, so that much of what resembled lupus erythematosus was due to a dermatitis with scaling. Whenever you have patches of plugged follicles and can pull out wisps of hair with the sheaths remaining on them, you have a positive indication of folliculitis decalvans. He did not expect to cure this case, but thought he could relieve it by treatment, and hoped he might be able to present it again and show the hairs in the follicles so characteristic of this disease. He hoped to convince the members that the diagnosis of folliculitis decalvans was a correct one. With the existing dermatitis and excoriation, however, he was not surprised at the almost unanimous opinion that it was a case of lupus erythematosus.

CASE FOR DIAGNOSIS: PROBABLY SYPHILIS. Presented by DR. WHITEHOUSE.

The patient was a man, an American, aged forty-five years. There was a history of chancre twenty years ago and treatment with mercury and iodides by mouth, for a year or more. No symptoms or lesions followed until seven months ago, and then the patient had a puffy swelling on the back of the left hand, leaving a red, firm nodule when the swelling subsided, which gradually enlarged. Numerous blind nodules appeared on the forearm along the line of the lymphatics, some thirty in number. One or two nodules appeared on the arm and upper arm; these gradually became raised, red and enlarged.

The patient began internal medication before the lesions got to the stage presented, and reached up to 25 grains of potassium iodide, t. i. d., which he took over a period of two months. The lesions appeared and increased apparently during its administration.

When first seen one month ago, there was a large, red, raised lesion, one and one-half inches in diameter, on the back of the left hand, blind nodules along the line of the lymphatics, and two small, raised, red lesions, half an inch in diameter, on the arm and upper arm. The Wassermann test at that time was four plus. He was presented to this Society then, and sporotrichosis and blastomycosis were suggested as possible diagnoses.

Cultural attempts were made on Sabouraud's peptone, glucose agar, and on potato and carrot, without success. During the past month he had been taking 45 grains of potassium iodide, t. i. d., and mixed treatment, containing $\frac{1}{12}$ of a grain of bichloride of mercury in each dose, as a result of which all symptoms had disappeared except pigmentation at the site of the lesion on the back of the hand.

DISCUSSION.

DRS. WILLIAMS and POTTER thought it was a case of syphilis.

DR. FORDYCE said that the result of treatment would seem to show that the case was one of syphilis. The lesions had practically disappeared. The nodular lymphangitis was of course an unusual feature of late syphilis.

DR. WHITEHOUSE said that the yielding to treatment would suggest syphilis, but years ago the patient had had similar treatment. The nature of that he did not know. The four-plus Wassermann test he could not explain. He would make further serological tests, and would present the case again later, with possibly a confirmatory diagnosis of syphilis.

URTICARIA PIGMENTOSA. Presented by DR. MACKEE for DR. FORDYCE.

The patient was a male child, four years of age. The eruption developed at the age of three months. Since that time occasional new lesions had developed and the older ones had not disappeared. There was some pruritus and a little dermatographism. The child was in good general health and the family history was negative.

The eruption consisted of yellowish, lentil- to dime-sized, irregular, slightly elevated papules, scattered over the shoulders, back and chest. Two lesions had been removed for histopathological study, but as the technical work had not been completed, the result of the examination would be announced at the next meeting of the Society.

LUPUS PERNIO. Presented by DR. WHITEHOUSE.

The patient was a man, an American, aged twenty-three years. He was first presented before the Society four years ago, with lupus pernio of the ears, hands and forearms, showing the characteristic purplish discoloration of the ears and hands, necrotic granulomata of those areas, with the typical superficial, punched-out scars of former lesions, and raised erythematous nodules, from split-pea to bean size, scattered over the fingers, with some general puffiness. Tuberculous glands were present at that time in both cervical regions.

The patient was in fair health and led a very regular and altogether healthy, out-of-door life; under forced feeding, tonics and a suitable hygiene, his condition remained the same until after four months ago, when he was put on tuberculin injections, with a clearing up of lesions, excepting the scars, his hands returning to a nearly normal color.

After eighteen months, the patient again presented himself with a similar train of symptoms, and after failure to improve on three months of tonic treatment, he again promptly responded to tuberculin injections.

Two months ago, he again presented a return of his symptoms, and after

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several injections of tuberculin, his lesions were rapidly disappearing. The treatment had been instituted each time with $\frac{1}{1000}$ mgr. of bacillus emulsion, increasing the dosage gradually, every five days. Usually twelve to fifteen injections sufficed to clear up his lesions.

ANGIOMA SERPIGINOSUM. Presented by DR. WISE.

The patient, a woman aged about thirty-two years, had been previously presented before the Society by Dr. MacKee. A description of her case had been published in THE JOURNAL about two years ago, by the speaker. She was presented again for the purpose of exhibiting the eruption to those members who had not seen the patient before, and also to obtain suggestions as to therapy. Thyroid treatment had been given a trial, but no changes took place in the cutaneous condition.

REVIEW

OF

DERMATOLOGY AND SYPHILIS.

Under the direction of

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Assisted by

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DEUTSCHE MEDIZINISCHE WOCHENSCHRIFT.

(Aug. 5, 1915, xli, No. 32.)

Abstracted by CLARENCE ALLEN BAER, M.D.

DEATHS FOLLOWING SALVARSAN. (*Continued.*) BERNHARD FISCHER, p. 939.

A case of swelling of the liver is cited and the necropsy findings given. The arsenic content of the liver was so small that death due to salvarsan poisoning could not be considered. Mercurialism was found to be the cause of death. Acute yellow atrophy is not caused by salvarsan, but is due to the syphilitic infection itself.

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(*Ibidem*, Aug. 12, 1915, xli, No. 33.)

DEATHS FOLLOWING SALVARSAN. (*Conclusion.*) BERNHARD FISCHER, p. 976.

The author states that:

1. Salvarsan injuries have been demonstrated as only
 - (a) Local necroses at point of injection.
 - (b) Encephalitis hæmorrhagica (the causes of this are as yet unknown).
2. Deaths following salvarsan injection that are not carefully investigated by minute macroscopical and microscopical anatomical observation and by chemical study must be excluded as salvarsan fatalities.
3. The possibility of death from mercurial poisoning following salvarsan injection must be considered. One case regarded as a salvarsan fatality showed evidences of mercury poisoning upon chemical investigation.
4. Salvarsan does not act as a toxine on liver cells. Acute yellow atrophy of the liver is caused by the syphilis itself and not by the salvarsan.
5. The toxic effects of salvarsan are not those of arsenic poisoning.

TREATMENT OF SYPHILIS WITH SALVARSAN ALONE. RUDOLF KREFTING, p. 979.

Krefting, after the study of several hundred cases of syphilis, concludes that:

1. Treatment of syphilis with salvarsan alone is equally as efficacious as mixed treatment with mercury-salvarsan.
2. Primary syphilis can be cured (as well as this can be determined, several years after the appearance of the chancre) by three to five large intravenous salvarsan injections, at intervals of fourteen days.
3. A definite rule for salvarsan treatment of secondary syphilis cannot be given, but the treatment must be continued for a time after the Wassermann reaction has become negative. Eight to fifteen injections are given.
4. There are no special contraindications to the use of salvarsan in cases of syphilis.

(*Ibidem*, Aug. 26, 1915, lxi, No. 35.)

TREATMENT OF ERYSIPELAS WITH IODINE-GUAIACOL-GLYCERIN PREPARATION. EUGENE SZECZY, p. 1038.

The preparation used in the treatment of erysipelas was: guaiacol 10, tincture iodine 10, glycerin 80. This is made into a liniment. This method of treatment was used in 62 cases. The author states he cannot attribute any absolute success in treatment directly to this preparation, but the method is preferable to the use of applications that alleviate only the symptoms. The duration of the erysipelas is no doubt shortened and the local symptoms disappear rapidly.

ANNALES DE DERMATOLOGIE ET DE SYPHILIGRAPHIE.

(July, 1914, No. 7.)

Abstracted by PAUL E. BECHET, M.D.

A HISTOLOGICAL STUDY OF A CASE OF LENTIGO. CH. DuBois, p. 385.

DuBois makes an extensive histological report of a lentil-sized lesion on the neck of a woman, 43 years of age. It was deep black in color and of slow

evolution. The most marked changes noted were a hypertrophy and increase in number of the sebaceous glands, an intense epidermic proliferation in the papillary layer, and an extensive pigmentation of the epidermic cells. There was a total absence of inflammatory changes. No malignant change was discernible, but coupled with the history of its progressive evolution, the presence of an abnormal number of hypertrophied sebaceous glands, which seemed to increase progressively in the neoformation, might lead one to fear the development of malignancy.

THREE YEARS OF ANTISYPHILITIC ARSENOTHERAPY AT THE
VENEREAL CLINIC IN LYONS. J. NICOLAS AND H. MOUTOT,
p. 391.

Nicolas and Moutot base their observations on 9,000 injections of salvarsan, neosalvarsan and galyl. They recommend their intravenous administration. Intramuscular injections should be given only in children or cases where the veins are imperceptible, or impalpable. Rectal injections are of no therapeutic activity. They recommend the injection of salvarsan in alkaline solution and condemn the ambulatory method. The patient should remain in bed at least 24 hours. Neosalvarsan should be given in concentrated solution according to the method of Ravaut, and the injection can be an ambulatory one. Galyl is dissolved in distilled water, usually in the proportion of 120 to 180 cubic centimetres, for from 40 to 70 centigrammes of galyl. The technique of the injection is the same as salvarsan. Distilled water is not an important ætiological factor in the accidents which occasionally follow arsenical injections. In point of efficiency salvarsan heads the list, with galyl second and neosalvarsan third. The authors have frequently observed syphilitic manifestations, that were little affected by two to three injections of 45 to 60 centigrammes of neosalvarsan, disappear rapidly under 30 centigrammes of salvarsan. In spite of these facts the authors prefer neosalvarsan in concentrated solution for routine administration. They firmly believe in the superiority of these arsenical preparations over mercury and the iodides, and their curative action on syphilitic manifestations. They report 200 cases in which the primary lesion was from three to thirty days old; in a number of these cases four to five injections of 30, 40, 50, 60 centigrammes of salvarsan or 45, 60, 75, 90 centigrammes of neosalvarsan were given at weekly intervals, and further treatment was discontinued. A number of them have since presented no clinical evidence of the disease, even after three years; others presented various accidents at variable periods, mostly 4, 8, 10, 12, 18 months after. Two of the cases apparently became reinfected. They recommend that mercury should be administered for four years, no matter how intense the antedating arsenotherapy. The old rules relative to marriage, etc., should not be changed. The authors have used arsenotherapy in many non-syphilitic dermatoses (pityriasis rubra pilaris, lymphodermia, lichen planus, epithelioma, sarcoma, sporotrichosis, lupus erythematosus, tuberculosis cutis, etc.), with no effect in some, and marked improvement in others. At no time was a complete cure effected. The local application of the powdered neosalvarsan in soft chancres, and chancreous phagedæna, was very painful, and inferior to the other forms of local treatment. In the 9,000 injections there were two deaths, one, a woman thirty years old, died after a second injection of 30 centigrammes of "606," given eight days after the first. The other death was caused by neosalvarsan. In both cases death occurred following a prolonged coma, complicated with epileptiform convulsions. There were a number of cases in which a non-fatal coma appeared. A preliminary mercurial course did not seem to diminish the frequency of these accidents. They seemed to occur more frequently after salvarsan, particularly when given in acid solution. Minor accidents, such as fever, chill, headache, retention of urine, intra-abdominal pain, cutaneous eruptions, etc., were frequently

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noted, but much less so after the use of neosalvarsan in concentrated solution. They recommend a dosage of one centigramme of salvarsan or 1.5 centigrammes of neosalvarsan per kilogramme of the individual's weight; 60 centigrammes of salvarsan or 90 centigrammes of neosalvarsan should be the maximum dose. The dosage should be small at first, and progressively increased. It is given at weekly intervals; four to six injections constitute a course, which can be repeated after one or two months. The arsenical preparations, in the opinion of the authors, have not shortened the length of treatment, which they place at four years, and while they efficaciously and quickly cause the disappearance of syphilitic manifestations, they have not proved curative, and mercury and the iodides still preserve their former value.

CONTRIBUTION TO THE CHEMICAL STUDY OF THE VERNIX CASEOSA. LOUIS JULIEN, p. 408.

Julien reports the analysis of a number of samples of vernix caseosa. His findings were very similar to those of Unna and Golodetz. Whether the vernix is a normal epidermic production (Unna), or a pathological condition on the borderland of seborrhœa (Jacquet), is a matter for further investigation.

JOURNAL OF THE AMERICAN MEDICAL ASSOCIATION.

(Aug. 21, 1915, lxx, No. 8.)

Abstracted by WM. H. BAUGHMAN, M.D.

CONGENITAL SYPHILIS IN THE LIGHT OF THE WASSERMANN REACTION. L. J. GLOMSET, p. 682.

Syphilis is transmitted congenitally through the placenta. Present facts suggest that antepartum infection generally takes place in the latter part of gestation. Excepting the initial lesion, all the manifestations of the acquired form occur in the congenital. The disease is an important ætiological factor of miscarriage. The latency of the congenital form varies greatly in individual cases. Two cases are reported, in which the author thinks that transmission into the third generation has probably taken place.

(*Ibidem*, August 28, 1915, lxx, No. 9.)

AN UNCOMMON CASE OF MULTIPLE BENIGN SARCOID OF THE SKIN. J. ZEISLER, p. 764.

The face showed sharply circumscribed nodules, and infiltrated plaques from split-pea to half-dollar size; varying from brownish-red to bluish-red in color, becoming yellowish-brown under pressure, and showed occasional miliary foci. They were superficially situated and markedly raised above the skin, easily movable and of tumor-like, firm consistence. The lumbar region had several dark-red, sharply demarcated tumors, from 0.5 to 3 cm. in diameter. The left gluteal region was occupied by an irregularly outlined plaque with distinctly infiltrated, dark-red borders and a light-brown, flattened centre. On the lower extremities were a few scattered, symmetrical, irregularly contoured infiltrates, yellowish-brown in color, lichenoid in type. On the sole of each foot was a small brownish nodule. Near the elbows and wrists were several irregularly shaped plaques with raised borders and depressed centres. The back of the right hand showed some small infiltrates and two brownish nodules on the thenar eminence of the palm. One small lesion was on the scrotum and several flat, lichenoid efflorescences were on the glans. Subjective symptoms were insignificant.

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Microscopic study showed the epidermis to be unchanged except for slight parakeratosis. The corium was occupied by infiltrated areas in the perivascular and perifollicular spaces; the infiltration being diffuse in some areas and more sharply demarcated into nodes by connective tissue, without evidence of inflammatory reaction, in others, and extended down to the corium. The infiltration consisted of epithelioid cells, round cells and giant cells of the Langhans type. No evidence of caseation. The blood vessels showed varying degrees of endarteritis. Plasma cells were absent. The elastic tissue was thinned out. Glands were not affected. Tubercle bacilli and Much's granules were not demonstrated.

LUPUS ERYTHEMATOSUS OF THE MUCOUS MEMBRANES. G. D. CULVER, p. 773.

Report of eleven cases showing lupus erythematosus in nineteen locations on the mucous membranes. After careful observation, Culver is led to believe that lupus erythematosus of the mucous membranes, as well as of the skin, is a manifestation of a deeper pathological condition. The most frequent disorders found were those of digestion and assimilation. Internal treatment and a proper regimen are as necessary as is local treatment for a cure.

(*Ibidem*, Sept. 4, 1915, lxx, No. 10.)

CUTANEOUS CANCER OF THE EXTREMITIES. H. H. HAZEN, p. 837.

The four important groups of cutaneous cancer are the prickle celled, divided into the cancer proper and the malignant wart; the cuboidal celled; the basal celled; and the nævocarcinoma or malignant mole.

Investigating fifty-eight cases, Hazen found that they were equally distributed between the upper and the lower extremities; that the commonest variety was the prickle celled one, the basal celled ranked next; that malignant warts were more common on the upper than on the lower extremity; the reverse being true of the cuboidal celled type; and that all, except a few whose origin was not determined, originated from some precancerous condition.

Study of the prickle-celled cancers showed that location of the primary growth had little influence on the liability to metastasis, and that prickle celled cancers were very prone to metastasize. The latter finding shows the necessity for surgical removal of the growth and the lymphatic glands draining the locality. Where a differential diagnosis cannot be made macroscopically, the entire growth should be removed and studied. Cuboidal celled cancers showed a similar tendency to metastasize. One case of malignant warts showed metastases; this followed a local operation which was probably incomplete. One case of the basal celled variety developed metastatic growths, which showed all of the peculiarities of a spino-celled carcinoma. Of the two cases which had multiple melanotic growths secondary to pigmented moles, one occurred on the arm of a woman who had had but a single trauma to a pigmented mole. The other occurred in a negro man, probably the only recorded case of a malignant mole in one of his race; the primary growth was on the sole of the foot and metastases occurred in the glands and lungs.

SALVARSANIZED SERUM IN SYPHILITIC NERVOUS DISEASE. SOME SALIENT FACTS: THE METHOD, THE DRUG, THE RESULTS. C. E. RIGGS, p. 840.

At the present time, the opinions in regard to the method of treatment, the drug to be used and the results obtained differ greatly. Griggs thinks that salvarsan injected intraspinally according to the method of Swift and Ellis gives the best results clinically, cytochemically and biologically.

REVIEW OF DERMATOLOGY AND SYPHILIS 863

COMPARATIVE RESULTS OF THE WASSERMANN TEST. A CLINICAL STUDY. A. A. UHLE and W. H. MCKINNEY, p. 863.

The results obtained with tests made on 325 specimens of blood collected from 292 individuals and examined by at least four of seven serologists using various techniques are full of interest.

A positive Wassermann was obtained in from 2.6 to 18.1 per cent. of normal persons and nonsyphilitic patients.

The percentage of positive tests in active syphilis varied from 50 to 100 per cent.

In 168 series of tests made by each of five serologists, all agreed in their findings in 47 per cent.

The serologists reporting the greatest number of positive results in cases in which a positive reaction was expected also reported the greatest number of positive reactions when the clinical expectancy was negative or doubtful.

All the serologists agreed in 21 per cent.; they disagreed materially in 19 per cent.; and varied in from one to four of the ten results in 60 per cent.

With two exceptions, the lowest percentages of positive reactions were obtained by the serologists using specific antigen, and at the same time they agreed more consistently with the clinical findings.

It was proved to the satisfaction of the serologists that it makes no difference whether the blood is collected in a sterile or non-sterile tube; whether infected with virulent cultures of *Bacillus typhosus*, *Staphylococcus pyogenes aureus* or *streptococcus*, or not; whether the specimen is one or several days old; or whether the blood is collected when the stomach is full or empty. Marked acidosis in a few instances did not influence the test from the standpoint of clinical expectancy.

BRITISH JOURNAL OF DERMATOLOGY.

(June, 1915, xxvii, No. 6.)

Abstracted by I. ROSEN, M.D.

SPURIOUS ERYTHROMELALGIA: REMARKS ON NON-SYPHILITIC ARTERITIS OBLITERANS IN JEWS. F. PARKES WEBER, p. 197.

Weber states that the affection occurs almost exclusively among adult Jewish males, of young or early middle age, especially those from the eastern portions of central Europe. In nearly every case there is a history of habitual cigarette smoking. The essential cause still remains unknown. The blood pressure is seldom high and there is no evidence of arterio-sclerosis or nephritis.

The disease usually begins in one of the lower extremities, then later involves the other leg and the upper limbs. The disease progresses with periods of exacerbations, alternating with long periods of intermission. Surgical interference is usually called for when the pains become intolerable or when ulceration and septic symptoms appear.

THE PEMPHIGOID ERUPTIONS. J. M. H. MACLEOD, p. 201.

Macleod, in a lengthy paper, emphasizes the importance of three cardinal features that are characteristic of the pemphigoid eruptions: 1. Multiformity in the eruptions. 2. Herpetiform grouping. 3. Intense subjective symptoms.

These cardinal features invariably occur during some period in the course of the affection, and the absence of any one of them renders the diagnosis a matter of uncertainty.

MEDICAL RECORD.

(Aug. 7, 1915, lxxxiii, No. 6.)

Abstracted by I. ROSEN, M.D.

THE X-RAY TREATMENT OF RINGWORM OF THE SCALP. GEORGE M. MACKEE and JOHN REMER, p. 217.

The authors go into details as to the most modern method of treating ringworm of the scalp. Their illustrations and diagrams speak for themselves, and are a valuable aid to the proper appreciation of the subject.

Emphasis is laid on the following points:

First. Cut the hair short, then map out five areas on the scalp.

Second. Apply an epilating dose to each of the five areas, being careful to protect the face, ears and neck.

Third. Measure the quantity and quality of the ray accurately with reliable instruments for that purpose.

Fourth. Absolute immobility of the head is required to obtain the best results.

With this mode of treatment the hair falls out in about three weeks, and about three months later starts to regrow; the cure is then accomplished.

LYMPHANGIOMA AND RADIUM. ROBERT ABBE, p. 215.

Abbe, in a brief article, reports six cases treated with radium with very good results. In the lymphangioma structures great depth is not required in the treatment, hence the success.

The author explains the action of the radium. It charges up the disordered cells of the tumor with negative electric particles, shot into them in proper quantity, completely changing their habit of growth, and restores them to permanent healthy action.

(*Ibidem*, Aug. 14, 1915, lxxxviii, No. 7.)

THE CAUSATION AND TREATMENT OF PELLAGRA. THAD. SHAW, p. 275.

The author believes that pellagra is caused by faulty metabolism, particularly of carbohydrate foodstuffs. Improvement takes place in the milder cases, if kept in a hospital on a fairly liberal diet, with plenty of fresh meat and meat juices.

In the treatment of the disease, the best results are obtained by climatic, hygienic and dietetic régime. The author prefers the mountains of Colorado. This, with a liberal mixed diet, where the carbohydrate element has been reduced to a minimum, gives the best results.

Of the drugs used in the treatment of the disease, arsenic stands in the lead. Fowler's solution, sodium cacodylate, atoxyl and salvarsan have been employed with varying results.

Blood transfusion produces very good results in some cases. Urotropin has been used, and is said to give excellent results in the hands of some investigators.

AMERICAN JOURNAL OF ROENTGENOLOGY.

(August, 1914, i, No. 10.)

Abstracted by CHAS. GOOSMANN, M.D.

THE TREATMENT OF CANCER BY PHYSICAL METHODS, WITH AND WITHOUT SURGERY. ARTHUR F. HOLDING, p. 368.

The electrical methods employed were deep Roentgen therapy, fulguration (De-Keating Hartt), desiccation (Clark), and diathermy (Nagelschmidt). These were combined with surgery, radium, toxines, and vaccines when such adjuvants were indicated. The results obtained were due to the correlation of these methods, which are little understood and seldom used by the profession at large. Holding's cases were treated during the preceding 18 months, precluding any final statement concerning the successful cases, other than that they are now symptomatically well.

Malignant lesions are divided by Holding into three classes. The first degree of malignancy includes superficial skin lesions, which do not extend more than 1 cm. beneath the skin. They are characterized by slow growth and late metastasis, and include papillary epithelioma, basal celled epithelioma, mycosis fungoides, and preëpithelial keratoses. Thirteen cases were treated with X-rays or radium, or both together. They were 100% symptomatically cured. The physical methods indicated in the order of their preference are: X-rays, desiccation, radium, and finally destructive caustics if the more expensive equipments are not available.

The second degree of malignancy includes operable tumors which tend to extend rapidly into the deep structures, and also characterized by rapid growth and early tendency to metastasis. This includes basal celled epithelioma and breast cancers. This class of cases should be treated by the following methods:

- (a) Preoperative massive doses of X-rays;
- (b) Thorough radical operation;
- (c) Fulguration at the time of operation;
- (d) Post-operative X-ray or radium treatment.

The third degree of malignancy includes inoperable superficial and deep malignant conditions. Here the ultimate prognosis is 100% bad, although temporary improvement can be secured.

The Coolidge tube is credited with having improved the results in all three classes. Holding uses a 10 inch spark gap, with a milliamperage of 5, and filters through 3 mm. of aluminum. The dose given appears to be about 15 X units.

(*Ibidem*, September, 1914, i, No. 11.)

TREATMENT OF ACUTE ROENTGEN RAY DERMATITIS. W. J. DODD, p. 430.

Dodd predicts that X-ray burns will be more frequent in the near future than for several years past on account of the powerful apparatus now available. For acute Roentgen dermatitis he advises: phenol 3ss., glycerin 3i., zinc oxide 3ss., lime water 3viii. Shake well and bathe area for five or ten minutes, two or three times a day. Avoid all heavy dressings, and when possible expose the lesion to the air. Dodd also believes that soda bicarbonate baths prevent burns where a slight over-exposure has been given.

(*Ibidem*, November, 1914, ii, No. 1.)

POST HOC OR PROPTER HOC? GEORGE M. NILES, p. 529.

Two patients with obscure digestive symptoms were sent to Niles for X-ray pictures of the abdomen. In 10 and 20 days, respectively, both developed acute

pellagra, with severe gastrointestinal symptoms. This brings up the question whether the penetrating X-rays can activate a latent pellagrous process in the intestinal tract, a disquieting possibility that should be speedily recognized or disproved.

(*Ibidem*, December, 1914, ii, No. 2.)

DEEP ROENTGEN-THERAPY AND ITS APPLICATION IN THE TREATMENT OF MALIGNANT GROWTHS. SAMUEL STERN, p. 544.

THE HYDROGEN X-RAY TUBE. EDWIN W. KELLY, p. 552.

All X-ray tubes may be divided into two types: the gas tube and the electron tube. The Coolidge tube is of the latter type, while the hydrogen tube, of course, contains gas. Substituting hydrogen for the complex mixture of gases found in the ordinary type, eliminates "crankiness," and by taking advantage of the osmosis of hydrogen through the metal palladium, it becomes possible to raise or lower the vacuum at will.

THE "BOILER" SYSTEM OF WATER CIRCULATION APPLIED TO WATER-COOLED ROENTGEN RAY TUBES. JOHN M. GARRATT, p. 560.

For X-ray treatments, water-cooled tubes are often used. Garratt connects the water reservoir of the tube with a storage tank, and the hot water maintains a constant circulation.

(*Ibidem*, January, 1915, ii, No. 3.)

LOSSES IN TRANSMISSION AS A SOURCE OF ERROR IN X-RAY DOSAGE. JAMES G. VAN ZWALUWENBURG, p. 601.

The author used an aerial trolley system to conduct the current from the transformer to the Coolidge tube. By comparing the readings of the milliammeter mounted on the transformer with those of another milliammeter mounted close to the tube, he found a marked loss when working with spark gap above 3 inches. With a 9.7 inch parallel spark, and 5.8 milliamperes (at the transformer) the tube milliammeter gave a reading of only 2 milliamperes, a loss of 65%. The author believes that the main loss occurs during transmission along the stretch of overhead wires. The distance between transformer and tube is not mentioned.

BOOK REVIEW.

OCCUPATIONAL AFFECTIONS OF THE SKIN. By R. PROSSER WHITE, M.D., Ed., M.R.C.S., London. Life Vice-President, Senior Physician and Dermatologist, Royal Albert Edward Infirmary, Wigan; Vice-President, Assoc. Certif. Fact. Surgeons; Life Fellow, London Dermatological Society; Member, Manchester Medical and Dermatological Society; Hon. Life Member, St. Johns Ambulance Association; P. M. O. and Senior Surgeon, Church Lads Brigade. Cloth. Price, \$2.00. 165 pages. PAUL B. HOEBER, New York, 1915.

The author of this work has made an exhaustive study and collected the literature on the above subject in book form,—a very tedious task. It is excellently compiled into eight chapters, systematizing the work into a handy reference, and is of special interest to the dermatologist on account of the frequent involvement of the skin by external irritants.

I. R.



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